

Oral Presentations

O-001

The 1918 Spanish flu epidemic in Malta: lessons for 2006

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In 1918, since Malta had been nursing many wounded troops during this period, the Spanish flu pandemic did reach Maltese shores around the second quarter of 1918. Very detailed public health annual reports were kept at the time, including detailed epidemiology of the pandemic influenza. Indeed 20388 civilians (91 per mille) are known to have been affected, out of which 807 died (4 per mille). Analysis of figures reported in the Annual Report of Public Health for the involved years shows that the largest civilian caseload occurred in the harbour area with a fairly similar numbers in other regions of the islands. However, the highest incidence rates were observed in the North of Malta, followed closely by Gozo and the South-east. This study aims to try to draw hypotheses whether temporal changes in incidence could be associated with the timing of public health measures. In addition, using the census population of 1921 as a denominator, age and gender weighted projections will be made onto the 2005 population to estimate the incidence of such a new pandemic. One understands that the assumption of similar conditions between 1918 and 2005 may not be plausible in a number of respects. While hygiene and public health has improved considerably, more of the population moves out of its locality of residence on a daily basis. Such a projection could provide us with an estimate of the upper limits of the expected caseload. Treatment and vaccination is expected to be better as well and, therefore, projections of mortality are not likely to be so realistic. In addition, regional differences are not expected to be so prevalent in view of increased population mobility.

O-002

Immunogenicity, safety and reactogenicity of a combined *Haemophilus influenzae* type b and *Neisseria meningitidis* serogroup C-tetanus toxoid conjugate vaccine in infants

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Background and Aims: Conjugate vaccines protecting against *Haemophilus influenzae* type b (Hib) and serogroup C *Neisseria meningitidis* (MenC) are part of the primary infant immunisation schedules in several developed countries. A single combination vaccine could provide an alternative to the existing Hib and MenC vaccines. We evaluated the immunogenicity and safety of a novel combined Hib-MenC conjugate vaccine (Hib-MenC-TT) in British and Polish infants (103974).

Methods: 500 healthy infants aged 6–12 weeks were randomised to a control group, receiving a MenC-CRM197 vaccine (Meningitec™) administered concomitantly with a diphtheria, tetanus, acellular pertussis, inactivated polio and Hib vaccine, DTPa-IPV-Hib (Pediaceal™) or to a study group receiving Hib-MenC-TT and DTPa-IPV (Infanrix™-IPV) at 2, 3 and 4 months. Serum samples were collected at baseline and 1 month after the 3rd immunisation. A serum bactericidal antibody assay (SBA-MenC) titre of $\geq 1:8$ and anti-polyribosylribitol phosphate (anti-PRP) antibody concentration of $\geq 0.15\mu\text{g/ml}$ were used as correlates of protection against MenC and Hib respectively.

Results: On an interim analysis of the sera from 144 participants, Hib-MenC-TT recipients had significantly higher anti-PRP geometric mean concentrations than participants in the control group ($17.0\mu\text{g/ml}$ [13.8–20.8] versus $2.1\mu\text{g/ml}$ [1.2–3.7]). SBA-MenC geometric mean titres were lower in the Hib-MenC-TT recipients (637.4 [510.9–795.2] versus 1202.5 [861.7–1678.0]). However, 100% of Hib-MenC-TT recipients had SBA-MenC titres $\geq 1:8$ and anti-PRP concentrations $\geq 0.15\mu\text{g/ml}$ post-immunisation in each group, achieving the pre-defined non-inferiority criteria for Hib and MenC immunogenicity. The reactogenicity profiles of the Hib-MenC-TT and DTPa-IPV vaccines were similar to the MenC-CRM197 and DTPa-IPV-Hib.

Conclusion: Interim analysis confirmed that the combined Hib-MenC-TT vaccine had comparable immunogenicity and reactogenicity profiles to separate injections and could provide an alternative to the currently used vaccines in the infant immunisation schedule in the UK.

O-003

The school health service - a needs assessment

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Introduction: The School Health Service consists of a small group of doctors and nurses who provide various services to children within all State and Church schools.

Aim of this needs assessment: Changes in our society's lifestyle and in the health needs of children and their families, coupled with the financial and human resource constraints of the Health Service raised the need to evaluate the present *modus operandi* of the School Medical Service, with the intention of obtaining a clearer perspective as to how this service could be improved in its efficiency and efficacy.

Methods: A monthly report of the work done in schools is one of the routinely collected data. The monthly reports from January 2005 to June 2006 for the work done in the Cottonera, Paola and Tarxien area schools were analysed.

Results: The fact that children are seen at school means that there is a high "catchment" rate. The school environment is a "neutral territory" for both the child and the family. This tends to demedicalise the issues concerned. The screening carried out yields substantial positive results. However there is room for greater effectiveness and efficiency of this service.

Conclusions: There is need for a review of the *modus operandi* of the School Health Service with emphasis on creating networks of teams with other departments providing child services. This would integrate work without the need for further human and financial resource recruitment.

O-004

Community services for Malta's growing elderly population: screening - the missing link in our portfolio?

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Aims: to review the basis for screening of community dwelling elders in other EU countries such as Sweden, Germany and the UK and discuss the feasibility/missed opportunity in Malta's failure to even conceive such screening.

Methods: a brief review of the available services in the community to address the needs of Malta's growing elderly population is presented. A thorough assessment of the basis for the decision to screen elderly persons in their homes in other EU countries and the evidence that exists at present in favour of such screening. Expected gains in terms of the population's health and in potential cost-benefit are discussed with the aim of quantifying what Malta stands to gain or lose by such screening.

Results: costs involved in national screening programmes of community dwelling elderly persons are clearly very high. However, gains expected in terms of quality of life, reduced admissions to residential care and even life years gained could well outweigh such costs.

Discussion: Malta's current economic situation is such that, despite the potential gains, including financial ones in terms of health care savings, it is unlikely that such a strategy will be considered in the foreseeable future locally.

Conclusion: screening of Malta's growing elderly population could remain the missing link in our range of services. Such an expensive facility could reduce the evident, growing demands for institutional care which is ultimately a more costly option.

O-005

The implications of the European Union on the Maltese health care system

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Following a national referendum Malta joined the European Union (EU) on the 1st of May 2004 to become the smallest Member State, at the southern most border of the enlarged European Community. As a small island state with a long tradition of medical care it has a sophisticated medical infrastructure that compares very favorably with industrial Western European countries offering a wide scope of treatment as a benefits-in-kind health care package. A challenging scenario could develop when the Single European Market rules as applicable to the EU healthcare policy are transposed to the Maltese Health Care System with its unique geopolitical context. Proactively reacting to these challenges necessitates policy makers to consider from various options, the two main ones being: 1. Constrict the offered health care package, and re-dimension the medical infrastructure so as to have a similar situation akin to that of Luxembourg, another small EU Member State with a comparable population base. 2. Build on the existing medical infrastructure in a way to take advantage of the recent EU membership. Malta as an island in the Mediterranean, with a service economy based mostly on tourism, could project itself as an ideal country for Northern European elderly citizens to have an alternative residence. A predilection to this option, or its possible hybrid variations could well succeed in preserving the 'ethos' of the Maltese Health Care System. To follow this re-crafted strategy, the Maltese Health Care system needs to re-orient to the realities and implications of EU policies in healthcare and contribute in their development at EU level in a manner to derive advantage from their evolution. Recommendations are suggested on how this could be achieved and transform EU membership from a potential threat to the Maltese Health Care System into an opportunistic challenge.

O-006

Is MRSA control an achievable target in Malta and what will it cost?

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Methicillin resistant *Staphylococcus aureus* (MRSA) infections remain a major infectious disease challenge within the Maltese Islands. From the first outbreak with St Luke's Hospital in 1995, cases have continued to increase in the past decade to reach a situation whereby more than 45% of *Staphylococcus aureus* isolates from blood cultures are methicillin resistant, one of the highest in Europe. In addition there is evidence of an ever-increasing prevalence of community MRSA. Several factors undoubtedly play a role in the local endemicity of MRSA. Overcrowding within St Luke's Hospital (St Luke's Hospital) has already been identified to be a major instigator behind MRSA incidence especially in medical wards. Antibiotic consumption is recognised as a major driver of resistance and indications are that antibiotic use in Malta is also on the high side. Furthermore studies of hand hygiene compliance, a cornerstone of nosocomial infection prevention, suggest a need for major improvement. Targeting these three risk factors is vital to achieve a successful outcome but will not necessarily reverse the situation. Isolation of positive MRSA cases remains critical to ultimate control. Recent mathematical modelling data suggests that a comprehensive search and destroy policy is the only effective solution to eradicate MRSA. In high endemicity situations this will require a comprehensive programme of patient screening both on admission as well as of all contacts of cases diagnosed during the hospital stay, both patients and staff. The availability of sufficient isolation beds is a prerequisite and even if this were to be done, the modelling data suggests that based on current prevalence in St Luke's Hospital, 15 – 20 years will need to elapse before full control is achieved.

O-007

MRSA in autopsy cases

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Nasal carriage of *Staphylococcus aureus* has become a means of persistence and spread of multiresistant staphylococci, especially Methicillin-resistant *Staph. aureus* (MRSA). MRSA has become a public health threat, both in hospitals and more recently in the community.

Aim: This study should indicate whether antibiotic medication and hospital stay predispose to nasal colonisation with *Staph. aureus* including MRSA when compared to a second cohort that had not been admitted to hospital recently.

Method: Nasal swabs were obtained from cadavers prior to undergoing post-mortem examinations. The nasal swabs were taken to the Bacteriology Lab where attempts were made to culture *Staph. aureus* from the nasal swabs. Staphylococci were tested for their antibiotic susceptibility. The organisms that were resistant to oxacillin were tested using a Penicillin Binding Protein (PBP2a) Latex Agglutination test, which is a confirmatory test for MRSA.

Results: From the 43 specimens taken, 34 of these had not been hospitalised before death. The remaining 9 died in hospital. 44% of the patients not hospitalised were colonised with *Staph. aureus*. 3 out of the 15 patients colonised with *Staph. aureus*, were MRSA positive (i.e. 9% of the non-hospitalised population).

This cohort is compared to hospitalised patients, where 33% were colonised with *Staph. aureus*; of these, 2 out of 3 patients were MRSA positive (i.e. 22% of the hospitalised patients were colonised with MRSA).

Conclusion: These preliminary findings provide confirmatory evidence that hospitalisation increases the incidence of MRSA carriage compared to the non-hospitalised population.

O-008

Hand hygiene practices amongst medical doctors at St Luke's Hospital, Malta

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Introduction: The ease of acquisition and transfer of transient pathogens on the hands of healthcare workers is an important factor in the spread of hospital infections. Thorough hand decontamination before and after patient contact is therefore essential for prevention.

Methodology: An observational study of doctors was carried out at St Luke's Hospital, Malta, between November 2005 and February 2006. The frequency and preferred method of hand hygiene before (if an inanimate object was touched previously) and after patient examination / contact was observed, together with concurrent availability of hand hygiene facilities. Observations were made at outpatient departments as well as in hospital wards.

Results: A total of 898 observations were made from 49 firms, each comprising an average of four doctors. Overall compliance before and after patient contact was 22.7% and 33.5% respectively. Poorest compliance was evident in house officers (16.7% before contact) as compared to the most compliant group - registrars (45.5% after patient examination). Within specialties, hand hygiene practices were lowest in Obstetrics & Gynaecology (10.6% overall) and highest in specialised surgical units (52.5%). There was no significant difference in hand hygiene compliance between ward-round and out-patient settings. The presence of adequate facilities resulted in a statistically significant improvement in compliance. Nevertheless, even when adequate facilities were available within easy reach, 74.8% and 64.6% of doctors failed to perform hand hygiene before and after patient contact. Alcohol hand rub was the preferred method in the wards whilst handwashing was mainly utilised in the outpatient setting.

Conclusion: Hand hygiene amongst doctors in St Luke's Hospital is low and could be a factor in the high MRSA endemicity. Campaigns are clearly required to improve compliance and reduce risk of transmission of nosocomial infections.

O-009

Impact of the introduction of antibiotic prescribing guidelines in St Luke's Hospital, Malta

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Background: Antibiotic prescribing guidelines were introduced in St Luke's Hospital in 2004 as part of an educational initiative, aimed at improving the use of antibiotics, started three years earlier.

Methods: The impact of the guidelines was assessed through a questionnaire sent to 300 medical professionals working in St Luke's Hospital. The respondents were asked to provide feedback on the impact that the guidelines had in their practice, as well as to respond to various conceptual questions relating to antimicrobial resistance and antibiotic use. The yearly consumption of selected antibiotics was also analysed to evaluate whether the guidelines resulted in any appreciable differences in the patterns of use.

Results: The questionnaire was replied by one hundred and seventy-six 176 doctors (12% consultants, 13.3% senior registrars, 16.7% registrars, 20% senior house officers, 38% house officers). Respondents indicated that they found the format and content of the guidelines useful. They strongly agreed that policies were useful tools to achieve best practice and that they felt that the issue of the guidelines did not interfere with their prescribing choices. However, replies were neutral as to whether the guidelines changed their individual prescribing practices and slightly negative when asked if prescription of third line agent should be restricted to infectious diseases specialists. Consumption of antibiotics following the start of the initiative fell by a third, particularly co-amoxiclav and erythromycin. However non-

formulary antimicrobial consumption (e.g. carbapenems and quinolones) continued to increase.

Conclusion: The introduction of antibiotic prescribing guidelines in St Luke's Hospital had a beneficial response from the users, both in terms of acceptance as well as practice, although the need for improvement remains.

O-010

Importance of practical undergraduate instruction in venepuncture and intravenous cannula insertion techniques to reduce the risk of needlestick injury in junior medical doctors

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Background: Surveillance of needlestick injuries within St Luke's Hospital in the years 1999-2003 showed peaks of incidence corresponding with the time of employment of house officers.

Method: Self-administered questionnaire distributed during the MD induction seminars of July 2004 and 2005 to assess the degree of theoretical and practical instruction in sharps use and injury prevention during their course.

Results: In 2004, 73.5% of the junior doctors had performed more than five venepunctures within their entire undergraduate course but only 26.5% stated that they performed the same number of intravenous cannula insertions. More than half of respondents indicated a lack of confidence to safely perform these interventions without the risk of self-injury. The majority stated that they had had insufficient hands-on instruction on correct venepuncture (77.5%) and of intravenous cannula insertion (83.7%). The results from the 2005 questionnaire showed a significant increase ($p < 0.001$) in the practical instructions of both venepuncture and cannula insertion which went up to 65.9% and 52.3% respectively when compared to the previous year. There was also a significant increase ($p = 0.007$) in the number of junior doctors confident in performing these practices. These differences were accompanied in 2005 by an apparent reduction in the magnitude of injury incidence peak within the subgroup of doctors aged 25 years or less.

Conclusion: The study highlights the importance of practical training in venepuncture and cannula insertion, rather than theoretical instructions, within the MD course in order to improve the self-confidence of neograduates and as a result reduce the risk of sharps injuries.

O-011

Three year sentinel surveillance of influenza activity in Malta

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Influenza is a highly contagious, acute febrile respiratory illness causing annual epidemics that are highly unpredictable. In contrast to most other acute respiratory infectious of viral origin with similar clinical symptoms, influenza is usually more severe and is commonly associated with complications either directly through primary viral pneumonia or indirectly through secondary non influenza complications either pulmonary or non pulmonary in nature. Every year, influenza results in 3-5 millions cases of severe illness and kills 0.25-0.5 million people worldwide. It affects people of all age groups especially the elderly and very young, and is a major burden for society from both clinical and economical points of view. Influenza remains the most major health threat worldwide. As the elderly population increases, future influenza epidemics will be associated with ever increasing hospitalization rates and excess mortality unless adequate prophylactic measures are taken. Since 2003, Sentinel Surveillance on influenza activity in Malta started being monitored.

A group of General Practitioners participate every year throughout October up to May the following year, and provide daily information on the incidence of influenza like illnesses seen in their practices. The aim is to collect timely information on influenza activity to reduce the morbidity and mortality associated with this disease

O-012

A pilot evaluational study assessing adherence to recommendations for avoidance of hypoglycaemia in insulin-treated Maltese diabetic drivers

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Hypoglycaemia, a common side-effect of insulin therapy for diabetes, may be associated with significant morbidity and interfere with everyday activities such as driving. Laboratory studies have demonstrated that cognitive functions which are critical to driving, such as visual information processing, attention reaction times and hand-eye coordination are impaired by hypoglycaemia, resulting in an increased risk of car crashes. This is particularly relevant for drivers receiving intensive insulin therapy. Patients should be advised to test blood glucose before driving, ensure an emergency carbohydrate supply, carry a blood glucose meter at all times when driving, and allow an adequate time to recover before resuming their journey if they should experience hypoglycaemia when driving. Results from a cohort of twenty consecutive insulin treated Maltese diabetic drivers presenting to Diabetes Clinic at St Luke's Hospital suggests little compliance in this regard, and forms the basis of a further in-Department study currently being carried out.

O-013

Audit of the management of patients admitted with diabetic ketoacidosis (DKA) to St Luke's Hospital

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Aim: To analyse the management of patients admitted with DKA according to the existing protocol.

Methods: Patients admitted with 'DKA' between 14th August 2004 and 14th August 2005 were identified from the Admissions book at the A+E Department. Data was obtained from patients' medical records and analysed according to a preset proforma. Parameters measured, investigations taken, insulin regime, intravenous fluids and potassium supplements given were recorded.

Results: From a total of 56 patients, 50 files were traced, of which 19 satisfied the criteria for the diagnosis of DKA. In the population studied the mean age was 35 years with a male predominance of 58%. 11 patients were Type 1 diabetics, 4 were Type 2 and another 4 were newly diagnosed Type 1 diabetics. Only 2 patients had their parameters checked regularly according to protocol. In the majority of patients fluids given in the first 22 hours coincided with the amount of fluids stated in the protocol whilst 47% of patients (n=9) were administered the stipulated amount of insulin via infusion pump. As regards potassium supplementation 89% of patients (n=17) were started on potassium replacement at a later stage resulting in a lower mean potassium level (3-4mmol/L) than the target of 4-5mmol/L. The mean duration of stay in hospital was 7 days.

Conclusion: Various problems have been identified on analysis of audit results. These principally included errors with parameter monitoring, and dose of insulin and potassium supplementation. Deviations from the protocol resulted in increased length of stay in hospital. Consequently, an audit cycle is recommended after introduction of the new DKA guidelines.

O-014

An audit of culture and sensitivity reports of infected diabetic foot ulcers

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Fifteen per cent of people with diabetes develop foot ulcers. The most common risk factors for ulceration include diabetic neuropathy, structural foot deformity and peripheral arterial occlusive disease. Diabetic ulcers are highly susceptible to infection, which is a major cause of amputation. Systemic antibiotics are regarded as part of standard treatment for invasive infections associated with diabetic foot ulcers.

An audit of wound swab results of diabetic foot ulcers of patients being followed up at the podiatry unit of the Diabetes Clinic was carried out. This involved a total of 144 culture and sensitivity reports of wound swabs. The aim of the audit was to assess the most common infective organisms and their sensitivities.

Bacteria were cultivated in 88.17% of cases. 7.6% of swabs revealed highly mixed flora suggestive of contamination whilst no pathogens were isolated in 4.16%. In 59.7% of swabs more than one organism was cultured from the same ulcer. A high recurrence rate of diabetic ulcers was also noted.

The most commonly isolated organisms were Staphylococcus aureus, 43% of which were MRSA, Streptococci, Pseudomonas aeruginosa and Enterococci. Other common organisms were Proteus mirabilis, Morganella morganii, Escherichia coli, Klebsiella oxytoca and Citrobacter koseri. A common pattern of antibiotic sensitivities was noted though rarely some strains were resistant to antibiotics to which the same strain was usually sensitive.

Wound swabs of infected ulcers are essential to guide antibiotic therapy in the treatment of the diabetic foot, with the ultimate aim of preventing morbidity and mortality.

O-015

Charcot foot: an often misdiagnosed diabetic complication

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Charcot neuroarthropathy is a progressive degenerative condition characterized by joint dislocation, subluxation and pathological fractures of the foot of neuropathic patients, often resulting in a debilitating deformity. In developed countries, the condition is most commonly encountered in diabetic individuals (incidence 0.1-0.5%) and results in a foot that is at risk for ulceration and amputation. Acute Charcot neuroarthropathy can be misdiagnosed as cellulitis, osteomyelitis, inflammatory arthropathy, fracture or deep vein thrombosis. We present a series of initially misdiagnosed cases of Charcot neuroarthropathy, highlighting the need for a high index of suspicion. This may allow the early institution of appropriate treatment, namely immobilization, bedrest, offloading and possibly pamidronate, if one is to reduce significant morbidity and severe deformities.

O-016

Association study of Libyan and Maltese patients with type II diabetes mellitus

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Type II Diabetes Mellitus is a common disease with onset in middle-aged individuals, caused by an imbalance between insulin production and action. Genetic studies point to major genetic components with an expiation of maturity onset diabetes of the young (Mody), specific diabetes susceptibility genes remain to be identified. Single nucleotide polymorphisms (SNPs) and mutations in different genes may be implicated in developing Type II Diabetes. In this study we analyzed 9 such genes that include IPF, MTHFR, mitochondrial tRNA, Resistin, PPP1R3, ADRABeta2, MIF, PTPN1 and

TLR4. SNPs were chosen from each gene according to stringent criteria based on developing Type II Diabetes in other populations. SNPs were genotyped in the Libyan and Maltese patients and compared with healthy Maltese citizens. DNA was extracted from whole blood, and genotyping of each gene determined by PCR-RFLP. Concurrently, pools of DNA from random Maltese newborn were carried out using fluorometry for accurate quantification. All genes were in Hardy-Weinberg Equilibrium and statistical analysis was carried out by SPSS (student package 12). Chi square analysis of all data in between populations and across populations revealed a significant association of the ADRABeta2 gene of both Libyan and Maltese Type II Diabetic patients with healthy Maltese controls ($p < 0.05$ for both). There is no difference between Libyan and Maltese Diabetics ($p=0.07$) indicating that this gene has a common predisposition to both populations. On the other hand, IPF gene was only associated with the Libyan Diabetes Type II and not with the Maltese population ($p < 0.05$). All other genes were not statistically significant associated with Type II Diabetes. The results show a strong association of the ADRABeta2 (Arg16Gly) and IPF (missense mutation Cys18Arg) genes with Type II Diabetes.

O-017

Death certification in Malta: attitudes and knowledge

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Aims: The accuracy of death certification by doctors completing death certificates in the Maltese Islands is not known. Since death certificate information forms an important public health tool, this study was carried out to assess the knowledge, attitudes and behavior of certifying doctors in relation to death certification, to determine the scope for future intervention.

Methods: A postal questionnaire was sent to doctors having completed at least three death certificates during the year 2002. Closed questions established personal and career details, death certification experience and knowledge, attitudes and behavior in relation to death certification and its uses. Four case studies were also included. Doctors had to fill in 'cause of death statement' for each study presented.

Results: 67% of doctors answered the questionnaire. Only 6% of all doctors had received formal training in death certification and 84% of doctors felt that training in death certification was needed. Training during housemanship years was ranked as the best method of training followed by training during medical school, information handouts and last seminars/CME initiatives. Factors which made filling in of death certificates more difficult included patients with multiple pathology (65%) and not knowing the patient enough (57%). Most doctors (95%) felt that accurate death certification was important and used as a legal proof of death, source of demographic data and for epidemiological research. Error rates in the case studies presented ranged from 30% in case study 1 to 80% in case study 4.

Conclusions: The results of the case studies reflect a lack of training in death certificate completion at all levels of medical experience. However there was a generally constructive attitude to the importance of death certification which would indicate that most doctors would be receptive to a training program.

O-018

Observational study reviewing the local practice in Malta of ordering routine chest X-rays on every medical patient admitted to hospital

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Objective: To assess whether any additional information is obtained through the routine requesting of chest X-rays on all adult medical admissions.

Design: Observational study.

Setting: Accident and Emergency Department, St Luke's Hospital, Malta.

Participants: All adult acute medical admissions, irrespective of age and gender.

Main outcome measures: The number of cases where unexpected findings were reported on routine chest X-rays.

Method: Participants were subdivided according to their smoking status as smokers, non-smokers and ex-smokers. They were then in turn divided into 2 age groups: <50 year-old, >50 year-old. The respective chest X-ray reports, as documented in the admission medical notes, were revisited and categorised as normal chest X-rays, confirming a diagnosis or whether unexpected findings were reported.

Results: Out of a total of 109 patients assessed, 23 were smokers, 70 were non-smokers and 16 were ex-smokers. Normal chest X-rays were reported in 19, 41, and 4 of smokers, non-smokers, and ex-smokers respectively. Diagnosis was confirmed on chest X-rays in 1, 15, and 6 of smokers, non-smokers, and ex-smokers respectively. Unexpected findings were diagnosed in 3 smokers, 14 non-smokers, and 6 ex-smokers making up a total of 23 cases out of the 109 gathered. Out of these 23 cases, 7 were unexpected findings requiring further investigation including: possible lung primary (2), newly diagnosed lung metastases (2), pneumonia (2), aortic aneurysm (1); 6 of these cases being in the >50 age group. Interestingly 3 were smokers.

Conclusions: The practice of requesting routine chest X-rays in all patients admitted to medical wards is almost exclusively useful in those over the age of 50 years especially in smokers, We suggest reviewing current practice. practice.wed.

O-019

Audit on the treatment of patients admitted to medical wards with a diagnosis of COPD exacerbation

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An exacerbation is a sustained worsening of the patient's symptoms from their usual stable state which is beyond normal day-to-day variations and is acute in onset. In all patients with an exacerbation referred to hospital, a chest X-ray should be obtained, ABGs should be taken and urea and electrolytes should be measured. In the absence of significant contraindications, oral corticosteroids should be used, in conjunction with other therapies, in all patients admitted to hospital with an exacerbation of COPD. Antibiotics should be used to treat exacerbations of COPD associated with a history of more purulent sputum. Oxygen therapy should be used to maintain adequate levels of oxygenation. Before discharge, spirometry should be measured, patients should be given appropriate information to enable them to fully understand the correct use of medication, including oxygen and arrangements for follow-up should be made. The aim of the audit is to compare practices at St Luke's Hospital with the recommended guidelines as published by the British Thoracic Society. Particular attention was given to the use of systemic steroids, oxygen, antibiotics and ventilatory support. Regarding the long-term management of these patients various aspects that could influence outcome were looked into including inhaler technique testing, smoking cessation information, respiratory outpatient review and patient compliance with treatment after discharge.

O-020

A full cycle audit on the correct assessment of postural blood pressure

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Background: Recurrent falls are very common in older people. One of the causes of recurrent falls is orthostatic hypotension. The correct measurement of blood pressure (BP) change with posture is thus central in making this important observation. There is great variation in the clinical practice of measuring postural change in BP.

Aim: To assess whether nurses at ZCH have the correct theoretical knowledge of how and when to measure postural BP in patients.

Methodology: The study population comprised nursing staff who had

the responsibility of measuring postural blood pressure when such a measurement was requested by a doctor. A set of 3 short multiple completion type questions were distributed to the nurses on duty on 2 consecutive days including the evening shifts. It was emphasised that the audit was anonymised and confidential. A 45 minute lecture on the physiology of blood pressure control, the reasons why we measure postural BP and the correct technique of measuring postural BP was delivered by the author to all the nursing shifts. During the discussion that followed, it was agreed that a printed proforma would be devised on which the definition of postural hypotension would be printed, together with the correct technique and a separate area for charting a patient's BP and the symptoms experienced by that patient if any, during the procedure. Six months later, in the second cycle of this audit, the same multiple completion questions were repeated. Results from the first and second audit cycles were compared.

Results: 34 and 27 nurses respectively participated in the first and second audit cycles. There was an overall improvement in knowledge from 82% to 96% getting 1 question right, 28% to 96% getting 2 questions right and 3% to 56% getting all 3 questions right.

Conclusion: This full cycle audit was successful in improving nurses' knowledge in the correct practice of measuring postural change in BP.

O-021

Audit of congenital adrenal hyperplasia diagnosed at an endocrine outpatient clinic

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Congenital adrenal hyperplasia is an autosomal recessive group of disorders characterized by a deficiency of one of the enzymes necessary for cortisol and/or aldosterone biosynthesis. There is a wide clinical spectrum, ranging from neonatal presentation with salt wasting and virilization, to non-classic presentation in adulthood with hirsutism, acne and oligomenorrhoea. Hypertension is also a recognized important manifestation. Congenital adrenal hyperplasia should be considered in the differential diagnosis of hirsute patients. We present an audit of twenty five patients diagnosed with congenital adrenal hyperplasia at an endocrine clinic at St Luke's Hospital, outlining the diagnostic criteria used. This audit has identified that there is no need for a synacthen test to establish a diagnosis if baseline levels of 17-hydroxyprogesterone are clearly elevated. There is a need however, to establish the baseline normal values for 17-hydroxyprogesterone and testosterone for the Maltese population, and stratify for age to ensure the correct cut-off point for these tests for the Maltese population.

O-022

Childhood obesity: a critical Maltese health issue

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Overweight and obesity is becoming epidemic, worldwide, in both adults and children. This problem is particularly evident in all most all westernised societies due to particular lifestyle and dietary habits. 20% of Europe's school-age children are estimated to be overweight and of these, 1 in 5 is obese. The local situation is reaching critical levels, with childhood and, indeed pan-population, obesity being very widely prevalent. Up to 25% of Maltese children are overweight (85-95% centiles for BMI), and 8% are obese (>95% centile for BMI). In certain age groups, Maltese children are the most obese worldwide, surpassing countries such as Italy, Greece and the US. These figures are the result of genetic factors indigenous to the population, but significantly compounded by an exercise-poor, increasingly sedentary lifestyle together with a startling national penchant for fat-rich, unhealthy food consumed in large quantities. The direct, indirect and long term health risks for the individual and population as a whole are indisputable and, given the current obesity trends for the country will result in an astronomical increase in morbidity and mortality from ischaemic heart disease, stroke and cancers. Moreover, this health burden will translate into an escalating

health budget requirement of at least Lm 33.6 million per annum. Obesity is, therefore, the greatest current national health crisis and must be classified as such with urgency. Only then will the problem be afforded the urgent attention required at all levels of the socio-political milieu. A seriously-funded, major national campaign must be implemented with urgency and will need to address the crisis at all levels including prevention, lifestyle issues and therapy.

O-023

Breastfeeding in Malta: why are rates so low?

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Background: Malta has one of the lowest breastfeeding rates in Europe. Mothers report of a lack of support from family members and health professional and early cessation of breastfeeding remains widespread.

Aim: This study reviewed statistics for the first 6 months of life and identified reasons why mothers discontinue breastfeeding.

Method: A random sample of 405 new mothers who chose to breastfeed at St Luke's Hospital, were contacted by phone at 1 week post delivery and then each month up to 6 months, and asked to voice their feeding experience.

Results: Breastfeeding attrition rates were high with very few babies still breastfed at 6 months. The most common reason for introducing artificial feeding was on the advice of health professionals, usually without any medical indication. Mothers who introduced bottle feeds in hospital lacked confidence to breastfeed and most stopped breastfeeding soon afterwards.

Conclusion: This study highlights that the majority of health professionals are not sufficiently committed to supporting breastfeeding mothers. Artificial feeding methods are still widely recommended with no scientific-based rationale and, once advised to do so, many mothers felt that bottle-feeding was necessary for the well being of her child. The introduction of a clear hospital policy and compulsive education for all health professionals involved in maternity care is strongly recommended.

O-024

The management of asthma in schools

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Aims: Asthma is one of the most common chronic disorders of childhood. Teachers find themselves responsible for supervising schoolchildren with asthma during school hours. They are involved in decisions regarding emergency treatment and the administration of regular prophylactic treatment. In this study a short descriptive situation followed by a questionnaire was designed to assess the knowledge of asthma amongst school teachers, to identify lacunae of limited understanding, and to assess how teachers feel about managing children with asthma in particular regarding policies for giving medications.

Methods: The teachers attending the yearly In-service Training Programme organized by the Education Division and enrolling in the module Health at School, were invited to participate in the study by answering the questionnaire. This consisted of 5 statements about the nature of asthma, its treatment and management, that the respondents marked true or false. With 100% participation rate the answers of 140 respondents were analysed using the Statistical Package for Social Sciences (SPSS) to provide tabulations and statistical calculations.

Results: By cross tabulations of the respondents' results it was found that: 45.7% of the respondents were not willing to assist an asthmatic child take their medications because they lacked the appropriate knowhow. 6.4% did not feel safe to give treatment notwithstanding they thought they knew enough on asthmatic treatment presumably because of lack of a school medication policy/protocols. Of concern is that 35.0% would offer help even though they felt they did know enough regarding asthmatic treatment. Only 12.9% felt confident enough to assist children have their medications at school.

Conclusions: Whilst a protocol regarding medications at school is needed, teachers need more guidance in supervising asthma and its management. The school health services could play a larger role in educating teachers

O-025

Current trends in child abuse in Malta

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Background and Aims: The socially complex aetiology of child abuse makes its eradication difficult yet it's significant negative impact demands early identification and appropriate management. To this end, local authorities have established efficient tracking and processing protocols for suspected cases, covering medical, social, legal and police aspects. This review presents the current status of abuse in Malta.

National Statistics: Child abuse is steadily on the increase: from 1993 up to 2004, Agenzija Appogg recorded a total of 6,711 reports under the Child Protection Services, of which 4,136 involved some form of child abuse, 55% in those aged 6-15 years and 12% in preschool children with a M:F ratio of 1:1.5 (1:5 for sexual abuse). 2% were referred from Health Services, 30% from Appogg, 27% relatives, 25% other agencies, 12% Education and 4% from the Police.

Types of abuse: As in other countries, physical abuse comprises 30% of cases; neglect 17% and sexual abuse 13%, although all types are likely to be under-reported. This is especially so for sexual abuse that involves preschool children who may not report the event compounded by the absence of penetration and external physical signs in just 2 out of 11 cases in one local review. Abuse by proxy (Munchausen syndrome) is only diagnosed once every 10 years in Malta.

Conclusion: Whilst case identification has increased steadily, the enhanced support services (Paediatric team, Appogg, Vice Squad, Family Court, etc), have considerably improved the overall liaison and medico-socio-legal package available, and those filing reports are protected by the Data Protection Act. Nevertheless, much still needs to be done to improve inter-agency liaison.

O-026

Declining birth rates and social factors - implications for paediatric private practice

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Malta exhibits many secular western trends including declining birth rates, declining fertility rates and increasing numbers of single parents. Moreover, the number of practising paediatricians is continually rising. This is expected to have a significant impact on private practice, which is widely used by local doctors to supplement low (by European standards) salaries. Like Dr. Tertius Lydgate in George Eliot's 'Middlemarch', many doctors may find this a further compelling reason to leave Malta in order to seek greener pastures.

O-027

Invasive meningococcal disease in Maltese children and adolescents

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Background and aims: *Neisseria meningitidis* is one of the leading causes of meningitis and septicaemia in children and adolescents. Serogroups B and C constitute the majority of meningococcal disease in most developed countries today. The incidence of serogroup C disease has decreased in those countries introducing the conjugate meningococcal C vaccines in their national immunisation schedules. The aim of this study was to look at the incidence and serogroup distribution of meningococcal disease, in children and adolescents, in Malta.

Method: All laboratory and clinically confirmed meningococcal cases occurring during 2000-2005 in 0-18 year old children and adolescents were retrieved from data collected by the Public Health and Microbiology Departments. The total number of meningococcal cases in all ages was also noted.

Results: The incidence rate for laboratory and clinically confirmed meningococcal disease was 2.7-5.6 per 100,000 population per year. Disease burden was highest in 2-4 year old children (mean: 42%). Serogroup B was responsible for most laboratory confirmed cases, followed by serogroup C. The proportion of invasive disease caused by serogroup C in 0-18 year olds has increased from 5.6% in 2000-2002 to 14.2% in 2003-2005.

Conclusion: Similar to other European countries, serogroup B *Neisseria meningitidis* is responsible for the majority of invasive meningococcal disease. Continued surveillance for serogroup C is warranted in view of the recent increase in meningococcal C cases and the availability of effective conjugate meningococcal C vaccines.

O-028

Assessment of the appropriate use of medicines at the medical admissions section of the emergency department

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Background: Appropriate prescribing remains an important priority in all medical areas of practice. Medication appropriateness can be defined as the outcome of a process of decision-making that maximises net individual health gains within society's available resources.

Objective: To apply a Medication Appropriateness Index (MAI) to identify issues of inappropriate prescribing amongst patients admitted from the Emergency Department (ED).

Method: This study was carried out at St Luke's Hospital on 125 patients following a two-week pilot period on 10 patients. Patients aged 18 years and over and on drug therapy were included. Patients who were not reviewed prior to the post-take ward round and direct admissions were excluded. Drug treatment for inappropriateness was assessed by using a MAI, which was tested for content validity and reliability.

Results: Treatment charts of 125 patients, including 697 drugs, were assessed using a MAI. Overall, 115 (92%) patients had ≥ 1 medications with ≥ 1 MAI criteria rated as inappropriate, giving a total of 384 (55.1%) drugs prescribed inappropriately. The mean \pm SD MAI score per drug was 1.78 ± 2.19 . The most common drug classes with appropriateness problems were supplements (20.1%) and antibiotics (20.0%). The most common problems involved incorrect directions (26%) and incorrect dosages (18.5%). There were 36 omitted drugs with untreated indications.

Conclusion: Considerable inappropriate prescribing was identified, which could have significant negative effects on patient care.

O-029

Molecular dynamics of the androgen receptor

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Aims: This is a comparative in silico investigation of the binding modalities of different ligands to the Androgen Receptor, and the effects that these different ligands have on its dynamics.

Methods: The AMBER 8 suite of programmes was used in order to simulate the binding and the trajectory of the Androgen Receptor over a period of 4.8ns. The trajectory of the Androgen Receptor was simulated for both the apo and the holo forms of the protein, with the holo form being bound to vinclozolin, diethylstilboestrol, corticosterone and metribolone. Coordinates for the Androgen Receptor bound to metribolone were obtained from the Protein Data Bank (PDB).

Results: Both the apo form, and the protein-ligand complexes equilibrated well over the period studied, and hydrogen bond analysis and principal component analysis indicated that the androgen receptor bound with high affinity but with different modalities to non steroidal ligands.

Conclusions: The Androgen Receptor is promiscuous, binding both steroidal and non steroidal ligands. An in-Department understanding of how non-steroidal ligands bind to the active site of this receptor is fundamental to the design of non-steroidal pharmacologically active agents.

O-030

Beyond the lipid-lowering view of statins: modulation of T cell response in autoimmune disease

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The pharmacological interference within T cell effector pathways is one therapeutic strategy for chronic inflammatory autoimmune disorders that are mediated by CD4+ T helper (Th) cells, such as multiple sclerosis (MS), diabetes and rheumatoid arthritis (RA). One candidate group of drugs for this therapeutic approach is the family of 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase inhibitors, collectively known as statins. These orally-administered drugs have been used for several years as the gold standard for lipid-lowering therapy but have also shown (from early clinical trials and animal experiments) therapeutic benefit in autoimmune disease including MS and RA. Although a plethora of molecular processes have been reported for their mode of action, the main biological alterations responsible for modulating T cell response by statins involve an interference with cell cycle progression and induction of anergy; a differentiation towards a regulatory phenotype; and a disruption in cytoskeletal dynamics necessary for migratory function. While most of our findings have been reported in the animal model or using in vitro systems, a Phase II clinical trial in relapsing-remitting MS that we are currently finalizing will clarify the implications of preclinical data and help identify in vivo therapeutic targets in the pathogenesis of the disease.

O-031

Novel anti-cancer agents, PBTs: inhibition of Gleevec-resistance in leukemic K562 CML cells by the PBTs

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Leukemia is a heterogeneous disease characterized by malignant proliferation of cells of the hematopoietic system. CML is characterized cytogenetically by the Philadelphia (Ph) chromosome, resulting in the generation of BCR-ABL chimeric fusion protein and is associated with increased levels of tyrosine kinase activity shown to play a role in generation of CML in animal models. Several studies have suggested that K562 cells, a tumor cell line derived from a CML patient in blast crisis, are resistant to apoptosis induction. Gleevec, a promising new inhibitor of tyrosine kinase is effective against BCR-ABL positive leukemia. However, Gleevec use has been complicated by the development of resistance with subsequent leukemia relapse. We have developed K562 cells that are resistant to apoptosis by Gleevec. In the studies reported herein, we demonstrate that PBTs cause apoptosis of Gleevec-resistant K562 cells in vitro. These studies indicate that PBTs overcome Gleevec resistance possibly acting through a different mechanism than through tyrosine kinase inhibition. Previously we showed that PBTs control neoplastic cell growth in vitro and in vivo and that the effect in vivo lasts 3-4 cycles longer than the treatment period. Furthermore we showed in vivo that PBTs and Gleevec are synergistic. These studies suggest that PBTs may provide novel anti-cancer agents to lower the concentration of

chemotherapeutic drugs needed thereby decreasing the observed side effects of these drugs. (Supported by the OCRN)

O-032

Role of nicotine in memory formation, neural cell proliferation and apoptosis

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Nicotine is the neuroactive compound that is considered to be responsible for the development and maintenance of tobacco addiction. Despite the abuse potential of nicotine, the acute effects of this drug are considered to have a neuroprotective effect on the adult brain to the extent that nicotine-derived compounds have been proposed for the treatment of age-related brain pathologies and as enhancers of cognitive performance. However, in heavy smokers, abstinence from nicotine is accompanied by significant cognitive impairments possibly indicating the presence of drug-induced changes in brain plasticity. This observation suggests that chronic administration of nicotine might impair brain mechanisms important for learning and memory formation. The area of the brain involved in these processes is known as the hippocampus. The subgranular zone of the dentate gyrus within the hippocampal formation is one of the few areas of the brain in which neural cell proliferation continues to occur in adulthood. This cellular process can be enhanced by a variety of treatments including an enriched environment, physical activity and antidepressant drugs. Recent research work in our laboratory has shown that chronic administration of nicotine dose-dependently decreases cell proliferation and increases cell-death in the rat hippocampus. Similar doses of nicotine have also been found to inhibit the acquisition of a spatial memory task. These results suggest that chronic nicotine administration can have adverse consequences on the adult brain, raising an additional concern about the consequences of tobacco smoking.

O-033

Development of personalized medication strategies for the treatment of neuroblastoma

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Neuroblastoma is the most common solid tumour of childhood and is the third most common cancer in children under five years of age. Initial treatment for children afflicted with advanced neuroblastoma usually involves chemotherapy. However, the main problems associated with chemotherapeutic agents are the dose-dependent adverse effects occurring mainly through interactions with non-tumour related cells, and the risk of the emergence of drug resistant tumours. Recent advances in molecular biological analysis and genetics research have opened new frontiers in the quest for the development of 'tailor-made' drugs, according to the individual patient's metabolic and genetic make-up and is part of the emerging translational medicine 'bench to bedside' approach to drug development.

Aim: To develop hypothesis led derivatives of chemotherapeutic agents currently used in neuroblastoma chemotherapy and possessing enhanced specificity for target tumour genes, thus identifying risk categories and reducing adverse effects in the patient whilst increasing the effective dosage.

Methods: qPCR and micro-array data and analysis to determine genes dysregulated due to the chemotherapeutic agents are used for studying the specificity of drug - target gene interactions. Evolutionary molecular modeling approaches will consequently be applied for modifying the drugs in order to enhance target gene specificity.

Results: At the time of writing of this abstract, preliminary analyses relating to micro-array and qPCR data are being finalized.

Conclusions: This molecular translational medicine approach to drug development, in the context of neuroblastoma, will produce drugs with improved efficacy and reduced ill effects for the neuroblastoma patient.

O-034

Incidence and survival of childhood CNS tumours in Malta - 1995 to 2004

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Introduction: CNS tumours comprise approximately 1/5 of all childhood cancers and pose particular management challenges. This study is a retrospective descriptive study of all CNS tumours in Maltese children aged up to 14 years from Jan 1990 to Dec 2004.

Methods: Cases were highlighted from the Malta Cancer Registry as well as from case records of the Paediatric Oncology Unit at St Luke's Hospital. The main aims of this study were to look at the incidence and survival of children with brain tumours in Malta, and to compare these with similar data from other European countries.

Results: There were 40 cases during the period encompassing 1990 to 2004. This translates into an incidence rate of 34.1 per million child years. Boys slightly outnumbered girls. Histology was available for 33 cases, and the most common histological type was astrocytoma followed by medulloblastoma / PNET. The main management modalities were surgery, chemotherapy and radiotherapy. The overall survival probabilities using Kaplan-Meier survival estimate, are 64% and 57 % at 5 and 8 years after diagnosis respectively.

Discussion: This is the first study looking at paediatric CNS tumours in Malta. The main points which emerge from this study are (a) the overall incidence rate compares favourably with that of many European countries, (b) management is compatible with state of the art knowledge and guidelines for management of these problems and (c) the overall survival rate compares favourably with that of other European countries.

O-035

A descriptive study of childhood leukaemia in Maltese children from 1980 to 2000

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Aims: This presentation is a retrospective descriptive study of childhood leukaemia in Maltese children from 1991 to 2000 and aims to describe the incidence and survival of Maltese leukaemic children during this period. The presentation will also compare the incidence and survival of Maltese leukaemic children during the study period with that of a previous study from 1981 to 1990.

Methods: The incidence of leukaemia in Maltese children from the ages of <1 to 14 years will be worked out using the data obtained from the Malta Cancer Registry. The data on survival and treatment will be obtained from the patients' hospital records. Kaplan-Meier survival curves will be used.

O-036

Recurrent and malignant pleomorphic adenomas in major salivary glands

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The pleomorphic adenoma is the most common salivary gland tumour and accounts for about 60% of all salivary gland neoplasms. The clinical management of these benign tumours can be complicated by their tendency to recur. A 10-year recurrence rate of roughly 7% has been reported for parotid pleomorphic adenomas. Furthermore malignant transformation has been reported in 1.9 - 23.3% of all pleomorphic adenomas. This study was carried out in order to establish the recurrence rate and the rate of malignant transformation in major salivary gland pleomorphic adenomas in Malta as well as to establish the incidence of carcinosarcomas and metastasising pleomorphic adenomas. The histopathology archives from 1970 to 2005 at St Luke's Hospital, Malta were searched for all cases

reported as pleomorphic adenomas, carcinoma ex pleomorphic adenomas and metastasising pleomorphic adenomas. The patients' histories were reviewed in order to ascertain whether the tumour was a first presentation or a recurrence. Pathology slides were reviewed when required. The data obtained was then compared to that reported in the literature. The incidence of major salivary gland malignancy was also compared to that of intra oral minor salivary glands

O-037

Differences in the *in vitro* bioactivity of crude Maltese honeybee propolis collected at different sites across the Maltese islands

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Background: Propolis is a complex honeybee product deposited in the beehives, where it is thought to protect the hive and its occupants from microbial infection. Propolis has several reported medical applications in view of its antiseptic, antimycotic, antibacterial, antiviral, antiprotozoal and anti-inflammatory properties.

Aims: The purpose of this study was to analyse the chemical constituents of the methanol extract of Maltese honeybee propolis, collected from different locations in Malta, and to investigate the *in vitro* cytotoxic activity of these extracts against human cancer cell lines.

Methods: Crude Maltese honeybee propolis was first extracted in water and then in methanol. The final methanol residue was dissolved in dimethyl sulphoxide (DMSO) and used for cytotoxicity testing on human cancer cell lines using standard MTT (3-[4,5-Dimethylthiazol-2-yl]-2,5-diphenyl-tetrazolium bromide) assays. Propolis contents were also analysed by GC-MS

Results: Results obtained show that the propolis collected from different areas in Malta has widely varying cytotoxic activity on cancer cells *in vitro*; the mode of cell death observed is morphologically consistent with apoptosis.

Conclusion: Propolis collected from different sites showed variations in the cytotoxic effects reflecting the differences in the species of plants on which the bees had foraged, including seasonal variation of flora.

O-038

Dynamic contrast enhanced MRI (DCE-MRI) predicts radiation response in cervical cancer

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Aim: To assess the predictive role of DCE-MRI parameters in the regression of cervical cancer

Method: Patients with locally advanced cervix cancer (stages Ib2-IVa) undergoing primary chemoradiotherapy were recruited. Each patient underwent DCE-MRI at three time points: prior to start of treatment, after 2 weeks of external beam radiotherapy (EBRT) and at the end of EBRT. Each examination included pre-contrast T2 sequences for optimal tumour localisation and dynamic T1 scans. The parameters evaluated for predictive purposes consisted of the relative signal intensity (rSI), the rate of contrast uptake, the area under the curve at 90seconds (AUC90), the volume transfer constant (K_{trans}) and rate transfer constant (k_{ep}) between the intravascular and extracellular-extravascular compartments. The correlation between the DCE-MRI parameters and the tumour regression was investigated using Spearman's correlation coefficient (r) with 2-tailed significance testing.

Results: 10 patients were recruited in the study. The initial tumour volumes ranged from 3.8cm³ to 197.3cm³ (median 37cm³, s.d. 55.7cm³). The percentage volume regression at the end of EBRT ranged 100% to 40.9% (median 76.1%, s.d. 19.1%). The percentage volume regression showed a significant correlation with the pre-treatment DCE-MRI parameters: rSI (r= 0.94; p<0.001), rate of uptake (r=0.78; p=0.008), AUC90 (r=0.9; p<0.001), Ktrans (r=0.97; p<0.001) and kep (r=0.77; p=0.009). There was no correlation between the tumour volume and the kinetic parameters or the percentage tumour regression

Conclusions: Pre-treatment DCE-MRI parameters are predictive of tumour regression and provide additional biological information which reflects the perfusion of the tumour microenvironment and is independent of tumour volume.

O-039

Novel methods for symptom control in palliative care in Malta

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Aim: The introduction over the last year of several novel methods of symptom control by the author involving both invasive and non-invasive methods in terminally ill patients at the Palliative Care Clinic at Boffa Hospital is explained.

Methods: The data in this report was collected retrospectively from Procedure Lists and analysis of follow-up in patients' case notes. Patient confidentiality was maintained at all times. The invasive methods reviewed include the following:

- a) long term epidural and intrathecal catheterisation
- b) coeliac block for upper GIT malignancies
- c) multilevel sympathetic ablation for lower GIT
- d) hypogastric block for pelvic malignancies
- e) chemical ablation of solitary metastasis

Non-invasive methods include pain management using new indications for old drugs (e.g. ketamine for intractable pain relief) that have been introduced.

Results: The use, mechanism of action and results of these methods in palliative control of pain in patients suffering from cancer is discussed.

Conclusion: The role of the multidisciplinary team with different specialities, including oncologists, palliative care physicians, anaesthetists, pharmacists, physiotherapists, nurses and members of other caring professions, in the management in both pre- and post-procedure phases is highlighted. The role of radiofrequency and chemical neuroablation as well as neurolytic and non-neurolytic nerve blocks is discussed.

O-040 – O-044

Seminar on pharmacist intervention

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In order to appreciate the impact of changes occurring in pharmacy, it is important to understand the societal and economic forces driving the rapidly changing healthcare system. It is essential also to evaluate the effect of these changes on other health care providers and health care entities such as hospitals, clinics and nursing homes.

Health care is moving towards becoming an integrated delivery system where health professionals practice within a network, sharing patient information and transferring patients between one sector and another as the level of care they require changes. As the continuum of care becomes more and more integrated, pharmacists are required to support patients in managing their conditions and to optimise drug therapy. Within this scenario pharmacists help the patient navigate around the various sectors and provide a focal point for patients to discuss drug therapy and to achieve patient concordance with the increasingly complex health systems. Pharmacists also provide patient support in accessing medicines and this includes pharmacist interventions as supplementary or independent prescribers. In order for these interventions

to be of benefit to the patient it is essential that they are carried out as part of an agreed pharmaceutical care plan.

The value of integrated health care delivery lies in achieving rational, safe and cost-effective care. Within the integrated care scenario emphasis on the totality of costs also emerges. Reviews look into population-based outcomes, individual prescription drug costs, cost of drugs and care and pricing of medicines, the whole area of pharmacoeconomics.

Practice experiences in pharmacy education are ideal for prospective pharmacists to experience contemporary procedures as well as to develop the skills required for ongoing career development. It is essential that pharmacy education and research converge towards contemporary evolutions in the profession. By integrating the basic sciences with the professional aspects of pharmacy and through appropriate research programmes, students are encouraged to develop competencies that the profession will require in future decades to continue to respond to changes in health care delivery systems.

O-045

Occurrence of post-tonsillectomy haemorrhage in Malta: do pre/peri/post-operative antibiotics influence outcome?

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Introduction: Haemorrhage is the most common complication after tonsillectomy. It requires re-admission of the patient to hospital, most commonly for observation, but active intervention is sometimes needed.

Method: The notes of 1464 patients who underwent tonsillectomy with or without adenoidectomy over a 3½ year period were analysed retrospectively to determine the incidence of post-tonsillectomy haemorrhage and its relationship to pre/peri/post-op antibiotic cover.

Results: Secondary haemorrhage occurred in 41 (2.8%) patients. The majority of these, 29 (70.7%) required no active treatment, whilst 12 (29.2%) required further surgery to achieve adequate haemostasis. In 2 cases (4.9%), bleeding was severe and the patient required a blood transfusion. Thirty eight (92.6%) patients who suffered secondary haemorrhage had received pre/peri/post-op antibiotics. Only 3 (7.3%) had not received any antibiotic cover.

Conclusion: Antibiotic administration pre/peri/post-tonsillectomy does not influence the incidence of secondary haemorrhage.

O-046

Conventional or laser stapedotomy – a comparison of functional results and outcomes

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Introduction: Surgery for the conductive hearing loss of otosclerosis was the result of the pioneering work of Shea and his collaborators in the sixties. The use of the laser in stapes surgery was first proposed by Perkins, and quickly taken up by many other surgeons. Laser assisted stapes surgery allows for minimal manipulation of anatomical structures, with precisely delivered forces, the principle advantage of this being reduced morbidity and improved functional results.

Aims: In this retrospective study the authors attempt to identify advantages and benefits of Laser assisted stapedotomy as opposed to conventional stapedotomy.

Methods: The functional results and clinical outcomes for two groups of selected stapedotomy patients, one group after conventional, and the other after laser assisted stapedotomy, are compared. The technical advantages and drawbacks for the two techniques are also discussed.

Results: Patients after laser assisted stapedotomy were more comfortable, and suffered from less vertigo postoperatively, than those undergoing conventional stapedotomy. Conservation of the 8KHz frequency was almost always obtained for the laser assisted procedure, not so for the conventional procedure. There was no difference in obtaining closure of the

air-bone gap for the two groups. The laser assisted procedure was, on the other hand, technically more difficult than the conventional approach. The actual expense incurred in obtaining a laser unit was considered another drawback.

Conclusions: Although laser assisted stapedotomy is considerably less cost-effective and more difficult than the conventional procedure, the significantly superior functional results and clinical outcome outweigh the disadvantages.

O-047

An assessment of the validity of the current practice of antibiotic prophylaxis in uncomplicated nasal surgery

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Introduction: Despite the large number of studies on the usefulness of antibiotic prophylaxis in surgery, there is little or no guidance on how to implement new codes of practice, or how to audit current guidelines.

Aims: In this study the authors analyse clinical outcomes in order to assess the validity of antibiotic prophylaxis in uncomplicated nasal surgery.

Methods: Three groups of selected patients were studied. One group was treated with a single preoperative intravenous antibiotic dose, a second group was postoperatively given a standard five day course of antibiotic, and a third group was given no antibiotics at all. Incidence of complications, average recovery times and drug adverse reactions was compared for the three groups.

Results: There was no significant difference in incidence of complications, in average recovery times or in the incidence of drug adverse effects, between the three groups.

Conclusions: In the absence of any evidence of clinical benefit obtained from the use of antibiotic prophylaxis in uncomplicated nasal surgery, it is not felt that the application of this practice is justified

O-048

A comparison of the effects of paracetamol and a corticosteroid against a non-steroidal anti-inflammatory drug on the sequelae following the surgical removal of mandibular third molars

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Aim: In this double-blind randomised controlled clinical trial, a combination of oral paracetamol 1g and oral dexamethasone 1mg four times daily, was evaluated against oral diclofenac sodium 50mg three times daily, for the control of postoperative pain, swelling and trismus following the surgical removal of mandibular third molars under local anaesthesia. The purpose for such a study was to find an alternative drug regimen for the control of the common postoperative sequelae of oral surgery, especially for those patients in whom the usual drug regimens (e.g. NSAIDs) are contraindicated.

Method: Postoperative pain was recorded 8-hourly by the patients using a visual analogue scale pain chart for 7 days, while facial swelling and trismus were assessed by the investigator on the second, fourth and seventh postoperative days. Facial swelling was determined using a measuring tape, while trismus was evaluated by measuring maximal interincisal opening.

Results and conclusions: ANOVA for repeated measures analysis indicated that the patients in the paracetamol and dexamethasone group experienced an overall mean reduction of 36% in pain ($p < 0.05$), of 76% in facial swelling ($p < 0.001$) and of 56% in trismus ($p < 0.001$) as compared to the patients in the diclofenac sodium control group. Levene's test for equality of variances showed that the inter-patient variation with respect to pain, swelling and trismus in the paracetamol and dexamethasone group, was also significantly less than that in the diclofenac sodium group ($p < 0.05$).

Pearson bivariate correlation tests show that the reduction in swelling and trismus ($p < 0.05$) are significantly correlated in both groups. None of the patients reported any adverse drug reactions.

O-049

Acute management of dentoalveolar trauma in children

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Introduction: Cases of orofacial trauma presenting to the general dental practitioner, general medical practitioner and doctors working in casualty are a relatively common event. These clinicians should be well versed in the immediate management of trauma to both primary and permanent teeth. Dental injuries usually involve a combination of injuries to a tooth and its supporting structures with certain types of injuries requiring more immediate treatment than others. Prompt, accurate diagnosis and appropriate emergency treatment will greatly improve the prognosis for many dentoalveolar injuries.

Materials and Method: Data on 159 cases of trauma to children aged between 5 and 23 years of age (250 traumatised permanent teeth) was collected over a period of 5 years (Aug 2001 – Aug 2006). Treatment was carried out either at the School Dental Clinic, St Lukes Hospital Dental Department, University Dental Clinic or a private dental clinic. These patients will be recalled to assess the outcome of treatment

Results: 4 % attended casualty Department as a first line emergency assessment prior to being referred on. Males accounted for 63 % of the children in the sample. Dental injuries that presented most frequently in permanent dentition were uncomplicated crown fractures of enamel and dentine (34%). 72% of the traumatised permanent teeth suffered a form of luxation injury and 3% were cases of avulsion (complete loss of tooth from socket).

Conclusion: A clinical audit of the management of trauma anterior teeth is required to evaluate the efficacy of immediate emergency treatment.

O-050

Postgraduate training in surgery

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Mr Dick Rainsbury is the Past President of the Section of Surgery of The Royal Society of Medicine, Foundation Chairman of the Breast/Plastic Surgery Interface Group, Foundation Breast Tutor The Royal College of Surgeons of England and Chairman of the National Breast Reconstruction Audit Steering Group. He has a particular interest in breast surgery, based in Winchester, UK, and is the Director of the Raven Department of Education of the Royal College of Surgeons of England.

He has a wide experience in postgraduate instruction and will discuss the recent, radical changes in postgraduate surgical training in the UK, including the implementation of the new curriculum and its impact on foreign trainees and on breast surgery.

O-051

Audit on the ability of house officers to predict the results of pre-operative blood investigations in patients undergoing elective surgical procedures

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Introduction: It is usual practice for house officers within the surgical department at our hospital to request routine pre-operative blood investigations in all patients undergoing elective surgery regardless of their medical fitness or ASA scoring. This audit assessed whether house officers were able to predict the outcome of blood investigations taken pre-operatively, and whether this prediction influenced the outcome of the

surgery. It also assessed whether UK guidelines on the indications of pre-operative blood investigations could be safely adopted in Malta.

Methods: House officers within our firm were asked to request appropriate blood investigations only in patients who had any obvious clinical indication or were ASA grade more than two. A full blood count was taken in women of childbearing age and a haemoglucotest was performed in the admitting ward on all patients. However, if the UK guidelines suggested blood investigations, these were also requested. House officers were also asked to indicate the predicted result of these investigations.

Results: 429 patients were operated by our surgical firm over one year. Data was collected for 266 (62%) patients, on whom 498 blood tests were requested. 454 blood results were correctly predicted as normal. 11 test results were predicted to be abnormal but were in fact normal. 18 blood tests were correctly predicted as abnormal, and 15 blood tests had incorrectly predicted abnormal results. No complications arose, and no surgical procedure was cancelled as a direct result of blood investigations that were not requested.

Conclusions: House officers are able to correctly predict the result of pre-operative blood investigations in the vast majority of cases. This can result in significant cost saving if pre-operative blood tests are only requested based on good clinical judgment.

O-052

Operative cholangiography in the laparoscopic era - back to the future

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Aim: Operative cholangiography, once a routine part of open cholecystectomy, appears to have declined in the laparoscopic era, with increasing numbers of patients receiving MRCP/ERCP. We aim to evaluate our conventional practice of routine operative cholangiography at laparoscopic cholecystectomy and aim to demonstrate its benefits.

Methods: Patients were recruited prospectively and a total of 1688 procedures were analysed. The median age was 51.5 years (IQR = 25) and the male: female ratio was 1:4. Pre-operatively patients were divided into two groups for further analysis. Group 1 (n=530, 31.4% of total) had one or more risk factors for choledocholithiasis (jaundice, pancreatitis, altered liver function tests and/or ultrasound evidence. Group 2 (n=1158, 68.6%) had no such pre-operative risk.

Results: In Group 1, duct stones were confirmed at cholangiography in 247 cases (47% yield). In Group 2, 73 patients (6.3% yield) were actually found to have duct stones. A total of 323 common bile duct explorations were performed - 173 (53%) had laparoscopic trans-cystic clearance, 150 (43%) had laparoscopic choledochotomy, whereas 15 patients (4%) were open conversions. We further subdivided Group 2 into four age groups and performed sub-group analysis. With increasing age, we found that operative cholangiography has a statistically significant higher stone yield ($p > 0.001$) in patients not previously suspected to have duct stones: 2.2% in patients aged 29 or less (n=131), 4.4% in those aged 30 to 49 (n=461), 6.9% in those aged 50 to 69 (n=475) and 24% in patients aged 70 or more (n=91).

Conclusion: Routine operative cholangiography facilitates single-session management of bile duct stones without need for pre- or post-operative ERCP. Moreover, it detects unsuspected choledocholithiasis in a significant percentage of low risk subjects. In this group of patients there is a significant incremental stone yield with advancing age.

O-053

The influence of peritoneal lavage on bacterial concentration in patients undergoing appendicectomy

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Background: The value of intraoperative peritoneal lavage in the treatment of peritonitis is controversial. Surgeons that are in favour argue that this is beneficial others argue that this is detrimental.

Aim: To measure bacterial concentration before and after peritoneal lavage in patients undergoing emergency appendicectomy.

Methodology: We recruited 30 patients with a possible diagnosis of appendicitis. Patients were randomly allocated either in the lavage group or in the control group. Once the peritoneum was opened alginate swabs were taken from the RUQ, RIF and pelvis. Patients in the lavage group underwent peritoneal lavage with 500 cc of saline at the end of the operation. This was then aspirated and swabs retaken from the same sites. Patients in the control group did not undergo peritoneal lavage but swabs were be retaken from the same sites all the same.

Results: The results showed: 1) a statistical significant reduction in bacterial concentration in patients undergoing peritoneal lavage; 2)lavage did not predispose to bacterial dissemination.

Conclusion: Peritoneal lavage is beneficial as it dilutes the bacterial population and removes the majority of organisms.

O-054

Empyema thoracis in children with community acquired chest infections

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Introduction: A retrospective study of 22 consecutive cases of children who presented to St Luke's Hospital between January 2000 and December 2005, with a community acquired chest infection which required surgery, was conducted. The presenting symptoms, clinical course and outcomes were monitored and analyzed. Baseline observations and patterns of empyema thoracis in the local community were recorded.

Methods and Patients: 22 children were included in the study. The age range was between 3 months and 12 and a half years. The average age was 3 years 8 months. 5 were girls (23%) and 17 were boys (77%).

Results: All the children in the study presented with fever (n=22). Most (21 of 22) also had a cough on presentation. The cough was equally divided between dry (n=11) and productive (n=10). Other symptoms on presentation were shortness of breath (n=6), vomiting (n=12), lethargy (n=6), irritability (n=5), epigastric pain (n=10) and tachypnoea (n=9).

Conclusions: 1. Ultrasound reporting in empyema thoracis in children by paediatric radiologists will decrease the need for CT scanning. 2. Introduction of video assisted thoracoscopic surgery may result in a shorter hospital stay for selected patients with less trauma to the child. 3. The introduction of guidelines for the treatment of empyema thoracis in children with a community acquired chest infection is recommended.

O-055

Validation of a Maltese translation of the IPSS score (IPSS-Mt.)

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Objectives: To test the psychometric properties of a Maltese version of the IPSS score and compare the outcome with the psychometric properties of the original American score.

Methods: A prospective observational study was conducted at the Urology Outpatient's Department., St Luke's Hospital in 50 patients with Benign Prostatic Hyperplasia (BPH) (age >50 years) and 60 control subjects (age 18 to 49 years) in order to test the validity and reliability of the IPSS-Mt. Eligible subjects were given the translated version of the Maltese IPSS at the outpatients clinic and then where asked to submit another questionnaire one week after the initial one.

Results: Construct Validity was assessed by correlating the IPSS-Mt. scores with the QOL question in the IPSS and another global question on bother with Urinary symptoms. Discriminatory Power was assessed by calculating the area under the receiver operating curve (ROC). Reliability was evaluated using the test-retest method and checking for Internal Consistency reliability was done using Cronbach's alpha coefficient. Sensitivity to change was

calculated as the effect size in pre-TURP vs. post-TURP scores in a subset of patients undergoing TURP.

Discussion: The validation of a Maltese version of the IPSS is a necessary exercise in the standardisation of care of patients with LUTS.

O-056

The impact of artificial reproductive technology on neonatal mortality in the Maltese islands

P Soler, D Soler

Background: Epidemiological studies have clearly demonstrated a positive correlation between multiple pregnancy and an increased neonatal morbidity and mortality. Studies have also shown that an increase in the number of multiple births closely follows an increase in the number of couples being treated for infertility.

Aim: To determine the effects of high order pregnancy on the survival of babies (singletons, twins and higher-order) admitted to the SCBU in the period 1989-2005.

Methods: Retrospective data collection from the SCBU Neoanatal Admission Register: gestation, birth weight, cause of death, pregnancy order, fertility treatment.

Results: There is a rising trend in the number of twins and higher-order pregnancies with the increasing availability of assisted reproductive technology; there is a six to ten fold increase in the death rate of babies resulting from high-order pregnancy. The costing of "futile" intensive care delivery is estimated.

Conclusion: The findings are in agreement with studies conducted in Europe and USA; the implications on NIC services at a National level are discussed.

O-057

A review of central and peripheral vascular access lines in Maltese neonates

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Aim: To categorise the use and problems encountered with vascular access lines in neonates admitted to the local neonatal unit.

Method: Prospective data for all umbilical, peripheral arterial and venous lines from 1st January 2005 to 31st June 2006 were captured into a custom database application. This included birthweight, gestation, diagnosis, indication, catheter lifespan, reason for removal and complications.

Results: A total of 264 lines were inserted in 172 neonates. The gestational age ranged from 23 to 40 weeks (median 34). 129 umbilical arterial catheters (UACs), 39 umbilical venous catheters (UVCs), 28 femoral venous lines, 41 radial arterial lines and 11 peripherally inserted central catheters (PICC) were performed. The median lifespans were 5 days (range 0-35), 4 days, (range 0-14), 12 days (range 2-37), 5 days (range 1-24) and 5 days (range 2-10) respectively.

12.4% of UACs were removed because of suspected or proven sepsis, 4.7% because of suspected onset of necrotizing enterocolitis, 3.9% because of vascular changes to the lower limbs, 3.4% of UACs were dislodged. 15.4% of UVCs were removed because of sampling difficulty, 36% of femoral venous lines were removed for suspected or proven sepsis, 27% of radial arterial lines were dislodged, while 36% of PICC were blocked. No neonatal deaths were directly attributable to the presence of a central line.

Conclusions: The median durations and complications are compared with published series.

O-058

A series of cases of spontaneously aborted fetuses

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Introduction: Spontaneously aborted fetuses frequently have developmental anomalies. Chromosomal abnormalities have been reported in 30-50% of cases.

Aims: This paper presents the results of a detailed anatomical examination of a series of cases of spontaneously aborted fetuses, together with their cytogenetic testing.

Methods: Foetuses were obtained following informed parental consent for any post mortem tests necessary for the purpose of establishing the cause of intra-uterine death.

The maternal histories were used to obtain information on the ultrasonography carried out during the mother's pregnancy, as well as any other findings relevant to establishing the cause of foetal death. The procedures for examining the external features and for dissection of small foetuses are discussed. X-ray imaging was used to view the skeletal system of foetuses, as a diagnostic investigation. Cytogenetic testing was used to diagnose cytogenetic abnormalities.

Results and conclusions: The abnormalities found included limb abnormalities, facial abnormalities, lung abnormalities, omphalocele and encephalocele. Cytogenetic testing used in other cases revealed the occurrence of Turner Syndrome, trisomy 18, and a case of triploidy.

O-059

Screening cranial ultrasound examinations in sick preterm and term neonates - the spectrum of findings

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Aims: To review the spectrum of cranial ultrasound findings and to determine whether the proportion of those within high to low prognostic risk categories is consistent with reports from other units.

Methods: A retrospective analysis of all cranial ultrasound scans carried out within our unit from October 1999 to October 2001 was performed. Scanned neonates were divided into a Preterm group (< 36weeks gestation) and a Term Group (>36 weeks gestation). Scans were categorized into normal or abnormal based on ultrasonographic standards. Distribution of grey to white matter lesions was also noted within the groups. Findings were then categorized into prognostic risk groups.

Results: Forty percent (269/674) of babies admitted during the study period were scanned. Most were preterm 167 (58%) while 112 (42%) were term. Most abnormal scans were seen in babies born before 28 weeks gestation. Milder grades of intraventricular haemorrhage (GMH/IVH2) were present in 4.5% of preterm and none in term babies. Cystic periventricular leucomalacia was an uncommon finding in all gestations. Congenital brain abnormalities were the commonest abnormalities in term babies. Low risk scans were found in 86-95% of preterms born between 28-36 weeks while only 43% were low risk type in those born before 28 weeks. White matter lesions were commoner in preterm group.

Conclusion: Findings in this group are comparable with that published from other neonatal units. Ultrasound identification of babies with high risk scans remains a valid tool which helps the clinician to identify those requiring close follow up because of associated increased incidence of neurodevelopmental problems.

O-060

National birth weight for gestational age centile charts and their inferences

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Aim: The development of national weight for gestational age centile charts with pathological subgroup analysis and comparison to other populations.

Method: Anonymised birth weight for gestational age data with relevant maternal and neonatal observations over the period 1995-2005 were obtained from national statistics. The formats were standardized and imported into an SQL database that enabled filtration for single live births and grouping by sex. The data was scrutinized manually for obvious keying errors. The best estimate of gestational age from last menstrual period (LMP) and expected date of delivery (EDD) was selected using established

guidelines. Erroneous outliers were detected by comparing the gestational age with the binned median and standard deviation. A Box-Cox transform was used to fit an LMS regression and generate separate centile charts within the R package. ICD 9 coding of the original data enabled selection of maternal and infant pathological subgroups. AutoRegressive Integrated Moving Average (ARIMA) was used to check for seasonal variation in birth weight.

Results: Processing of the initially filtered 22,396 males and 20,936 females revealed the expected paucity of births below 35 weeks but still enabled the fitting of charts starting at 24 weeks. Infants of diabetic mothers, those with pregnancy induced hypertension, plus other infant pathology groups were compared to the fitted model.

Conclusion: Centile charts for Maltese neonates are presented. Median Maltese term birth weight was just under 100g of standard Caucasian models. Possible reasons for this are proposed.

O-061

The National Neonatal Screening Programme: is it time for a change?

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Background and Aims: Currently in Malta, newborn infants are routinely screened for thalassaemia and congenital hypothyroidism using umbilical cord blood samples. However, this method may be associated with false negative results, and other 'screenable' conditions may be sufficiently prevalent to justify their inclusion in the national programme. This national review study assessed the various options with a remit to make firm recommendations to government.

Methods: The review committee assessed the position in detail over a three year period, consulting widely with experts both locally and overseas. Recommendations for disease inclusion into the screening programme included the following: i. Disease fulfilled established criteria for newborn screening; ii. Local incidence significant to warrant inclusion; iii. Impact of disease and delay in treatment resulting in significant morbidity; iv. Issues relating to availability of screening test, v. Ease of sampling and impact on collection; v. Monetary implications.

Results: The report concluded that at least two additional disorders, namely atypical phenylketonuria due to DHPR deficiency and cystic fibrosis fulfill criteria for inclusion; others such as dopamine responsive dystonia due to sepiapterin reductase deficiency and classical phenylketonuria due to Phe hydroxylase deficiency are likely to fulfill criteria but prevailing evidence is, as yet, insufficient to make a firm case for their inclusion.

Conclusion: There is clear evidence for a review of the current screening programme. However, all proposals will necessitate significant changes in additional laboratory assays and personnel requirements (particularly with the adoption of a 'day 5' Guthrie-type collection rather than umbilical sampling). All entail a significant monetary increase from circa Lm15,000pa to Lm64-98,000pa depending on which programme/assays are adopted.

O-062

Guideline for suspected lower limb deep vein thrombosis

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Aim: The aim of this audit is the evaluation of the guideline for the management of suspected lower limb deep vein thrombosis in the casualty setting.

Method: A total number of 137 cases, who presented at the Casualty Department over a period of three months, were included in the study. Patients were divided into low risk and moderate-to-high risk categories according validated Well's scoring criteria including clinical signs and medical history and the appropriate investigations were performed according to guideline. Data was hence collected and the patients were followed up to monitor the outcome.

Results: Of the 137 patients included in the study 106 patients were discharged directly from the casualty department. 31 patients required admission. Of these, 22 had a confirmed DVT.

Conclusion: A considerable number of admissions were avoided. The guideline was modified in order to accommodate those patients who according to guideline necessitated follow-up Doppler studies. In view of the logistic problems encountered in organising the latter, a venogram is now being advised instead.

O-063

Audit on the treatment of patients newly admitted to the medical wards from casualty with a diagnosis of deep vein thrombosis

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Background: Venous thromboembolism (DVT/PE) is a common medical condition with an excellent prognosis once appropriate treatment is started. Inadequate treatment on the other hand is associated with a high mortality. Guidelines for the treatment of DVT have recently been published in the New England Journal of Medicine.

Aim of audit: To assess if DVT management at St Luke's Hospital follows these guidelines and identify any pitfalls in management.

Methodology: All patients admitted with a suspected diagnosis of DVT/PE during the year 2004 were identified. From these 400 patients, 100 were randomly chosen. The relevant data was inserted on a prepared data sheet from the patients' medical records.

Results: Out of the 100 patients selected, only 41 were diagnosed with DVT/PE. In more than half the patients the diagnostic investigation of choice was a venogram. The most common risk factors for DVT/PE were immobilization, cancer and a previous DVT. Regarding management flaws, in a significant number of patients (12) a heparin loading dose was not given. In 12 patients the target APTT ratio was not reached within 2 days of starting anticoagulation. In 12 patients, heparin was not given for the minimum duration of 5 days. An overlap of heparin and warfarin for 2 days after reaching the target INR was not done in the majority (25) of patients. 8 patients from the study population passed away, 2 of these dying from PE. The other 6 patients died from an underlying malignancy.

O-064

Coombs-positive autoimmune haemolytic anaemia in ulcerative colitis

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Background: The incidence of immunological disorders is greater in patients with inflammatory bowel disease than among the general population. The association of ulcerative colitis and autoimmune haemolytic anaemia was first described in the early 1950's but no more than fifty cases have been documented. Detailed description of the pathogenic mechanisms involved is lacking.

Case Report: A 46-year old lady with ulcerative colitis presented with an anaemia of 3 months. The patient had undergone a restorative proctocolectomy and ileal pouch reservoir in 1990. She had lately been suffering from pouchitis and had been prescribed mesalazine suppositories. These were discontinued when the patient was found to have a haemolytic anaemia. However, two months after withdrawing mesalazine, the patient's haemoglobin continued to drop to 6.2g/dL whilst the reticulocyte count increased further. There was no exacerbation of colitis during this time.

Direct Coomb's test was positive. The patient was treated with prednisolone 60mg daily and within ten days of starting steroids, the haemoglobin had increased to 10.1g/dL. Steroids were gradually tailed down over a three month period and the patient's haemoglobin level has remained stable.

Conclusion: A review of cases of Coomb's positive haemolytic anaemia in association with ulcerative colitis shows that there is a marked preponderance of female patients (F:M = 7:1), the anaemia appearing at a mean of 10 years after the onset of the colitis, independent of the age of the patient. Although corticosteroids and/or immunosuppressive therapy are often successful, some patients require splenectomy and occasionally colectomy.

O-065

Is the degree of stereo acuity affected by correction of the refractive error?

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Purpose: The aim of this study was to consider changes in the level of stereo acuity with different levels of corrected and uncorrected hypermetropia and myopia.

Method: The study was a prospective study with a cross-sectional design. 55 candidates were selected from a database of ametropic subjects. 42 subjects accepted the invitation; 5 were eliminated, 18 were hypermetropic, while 19 were myopic. The level of stereo acuity was measured with and without correction, using the Frisby Plates mounted on a specifically designed bench.

Results: Using regression analysis, in both the hypermetropic and myopic groups, the threshold of stereo acuity was not significantly influenced by the degree of refractive error when measured with the appropriate correction (Hypermetropic group: $p > 0.05$; Myopic group: $p > 0.05$). However when the threshold of the level of stereo acuity was measured in the same subjects without the appropriate correction, then these levels were significantly reduced (Hypermetropic group: $p < 0.001$; Myopic group: $p < 0.0001$). The mean threshold levels of stereo acuity in the hypermetropic group and the myopic group measured 33.5 and 22.5 seconds of arc respectively when measured with correction. Without the correction the mean threshold was significantly reduced to 76.4 and 75 seconds of arc respectively. Using Paired Sample t-test to compare means, it was found that the difference in means with and without correction was highly significant (Hypermetropic group: $p < 0.05$ and Myopic group: $p < 0.05$).

Conclusions: In this study corrected ametropic subjects had a normal threshold level of stereo acuity. All subjects when uncorrected had significantly reduced stereo acuity. Finally subjects with myopia had a better threshold level of stereo acuity than those with hypermetropia.

O-066

A retrospective study on visual impairment in childhood in Malta

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Aims: The purpose of the study was to perform a retrospective descriptive study of children with visual impairment and to look at the epidemiological characteristics and the services available for rehabilitation.

Method: The Orthoptic files of 800 children registered at the Orthoptic department between January 1997 and December 2005 were examined and children who satisfied the criteria for low vision, blindness or any other significant visual defect were selected for data analysis.

Results: A total of 66 children, 38 males and 28 females, were found to have some form of visual disability. 20 were cortically blind, 19 had severe visual impairment, 5 had moderate visual impairment and 18 had low vision. The visual acuity of 4 children could not be measured accurately for classification. While 20 children had no significant refractive error, 17 children had variable degrees of myopia and 9 had a degree of hypermetropia. 14 children were found to have another ocular pathology and 40 children had two or more medical pathologies. Treatments ranged from spectacle correction and

occlusion therapy to surgical intervention. One case had chemotherapy and radiotherapy. Two important observations made were (a) very few patients had perimetry and visual evoked potentials studies performed, and that (b) Only very few children with low vision were using low vision aids.

Conclusions: We recommend that services for visual evoked potentials should be made more available, thus providing more information regarding the visual function. There should also be more services for low-vision aids that seem to be so lacking in use in our cohort of visually impaired children.

O-067

Lung cancer in Malta: from presentation to surgery

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Aim: This paper looks into the state of lung cancer resection in Malta, specifically the delay in time from presentation to operation and the operability rate. The local situation is then compared to the Calman report on lung cancer ("Improving Outcomes in Lung Cancer" NHS Executive UK, 1998 p11-199).

Methods: A retrospective collection of data from theatre operation books was used to collect the total number of curative or palliative surgical procedures for lung cancer. These included wedge excisions, lobectomies and pneumonectomies. Data for the two participating consultants was used to identify patients for which data related to timing from presentation to operation was sought. Retrospective analysis of case notes was then performed on this subset of patients.

Results: There were 14 cases of resection of lung cancer in 2005, of which 9 were used to analyse waiting times. Time from presentation of symptoms to first tentative diagnosis was 70 days, from diagnosis to referral for surgery was 65 days, and from referral to operation was 11 days, the total time being 146 days. Pneumonectomy rate was 14% and open and close thoracotomy rate was 7%. Only 33% of patients received treatment within 2 months of presentation.

Conclusion: The results are analysed by comparing with the six key recommendations for "gold standard" lung cancer services as stated in the Calman NHS Cancer Plan UK. Recommendations are suggested for improvement of lung cancer services in Malta.

O-068

A single centre experience of the Arterial Revascularisation Trial (ART) - a randomised trial to compare survival following bilateral versus single internal mammary grafting in coronary revascularisation

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Aim: The aim of this study is to present very early data from a single centre participating in the ART study, a unique multicentre international surgical randomised controlled study comparing the use of single versus bilateral mammary arteries in surgical revascularisation of patients with multi-vessel coronary disease.

Methods: Between November 2005 and May 2006, a total of 76 patients who were referred for CABG (coronary artery bypass grafting) were screened for the ART study. Of these, 39 patients have been enrolled and 23 of these have undergone surgery. All of the enrolled patients had multivessel disease affecting at least, the LAD and circumflex branches of the left coronary artery. They all had exertional angina CCS class III or IV or presented with a NSTEMI.

Results: 13 of the patients who were operated on were randomised to receive a single mammary artery and supplemental conduits (long saphenous vein/radial artery) and 10 were randomised to have bilateral mammary arteries and supplemental conduits. There were no deaths or

major morbidities and at 6 weeks, all patients were angina free.

Conclusion: Although this unique surgical randomised controlled trial was long in the planning, its execution has been trouble free. Bilateral internal mammary artery grafting for multivessel coronary disease can be performed with minimal morbidity and its early results are as good as the more traditional operation using a single internal (left) mammary artery graft.

O-069

Early use of dialysis after cardiac surgery

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Introduction: Renal replacement therapy may become necessary after cardiac surgery. An important risk factor for this development is pre-operative renal impairment that is more prevalent with increasing age. Over the past 12 years the percentage of patients over 70 undergoing cardiac surgery has increased from 21% to 30%. Our use of dialysis has increased from 1% to 7% over this period. The timing of dialysis after surgery is crucial to the outcome of these patients

Aim: To determine the optimum timing of dialysis in acute renal failure after cardiac surgery.

Methods: A retrospective analysis was made of our changing practice in this field.

Results: In the first 6 years of this series (phase 1) only 3 (19%) of the 16 patients who underwent dialysis were discharged from hospital. During the latter 5.5 years (phase 2) 38 (73%) of the 52 patients who underwent dialysis survived. In phase 2 we used dialysis in the early phase of acute renal failure after cardiac surgery, when oliguria set in, and before the metabolic consequences of renal shutdown occurred.

Conclusion: We believe this protocol of early dialysis was responsible for our improved results and also enabled us to accept more patients with renal impairment for surgery.

O-070

A retrospective audit of the outcome of patients who performed exercise stress tests

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Aims: To determine how many patients with a positive stress test actually proved to have coronary artery disease on coronary angiography and to identify situations where exercise stress test has a low sensitivity.

Methods: The subjects chosen for this study were patients who performed exercise stress test during 2003, as provided from the records at Cardiac Lab. Case notes of patients were then reviewed retrospectively. Any relevant past medical history, stress test result, coronary angiogram and/or MIBI report, relevant admissions or consequent discharges were noted, together with the management of patients with positive coronary angiogram. Coronary angiogram was taken as the gold standard investigation for identification of coronary artery disease.

Results: Out of approximately 1500 patients who performed a stress test during 2003, 1148 case notes could be traced. The population studied was predominantly male (64.3%). Average age was 54.8 years. 238 patients were diagnosed with a positive stress test. Of these, 187 proceeded to coronary angiography and 73% (136) had a positive result. A lower incidence of risk factors was reported in the group with false positive stress tests. Out of the patients who were diagnosed as having a normal exercise stress test, 52 also had a coronary angiogram done; 69% (36) resulted positive. Of these 13 proceeded to PCI and 8 proceeded to CABG. In patients with false negative stress tests, 28% had a past history of MI, PCI or CABG; 19% presented with acute coronary syndrome and 11% with established myocardial infarction. 135 patients had an equivocal stress test; 35 proceeded to angiography of which 57% were positive.

Conclusions: Analysis of risk factors as well as past history of ischaemic heart disease is necessary for improved interpretation of stress tests and earlier referral of the cardiac patient to coronary angiography.

O-071

Transcatheter ablation of muscular right ventricular outflow tract obstruction: a new technique

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Significant muscular (infundibular) right ventricular outflow tract obstruction may arise spontaneously or as part of a condition, such as tetralogy of Fallot. Muscular obstruction is usually excised surgically. We describe a novel transcatheter ablation technique wherein heat is selectively applied to subpulmonary muscular obstruction, causing tissue dessication with initial oedema that may actually cause a transient increase in stenoses and gradients, followed by eventual atrophy. This technique has not been previously used, to the best of our knowledge, in this setting although it has been used for the treatment of muscular subaortic stenosis in hypertrophic obstructive cardiomyopathy. We describe its application and results in 3 Maltese patients.

O-072

Cardiac catheterisation for paediatric and congenital heart disease in Malta

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Cardiac catheterisation remains an important tool in the diagnosis and treatment of congenital and paediatric heart disease. We present the overall totals and results of these catheters, both diagnostic and interventional (n>230), and illustrate with some interesting and unusual cases. These include:

Stenting of severe origin stenoses of innominate and left common carotid arteries at 11 years of age after surgical coarctation repair in early infancy, mild coarctation of the aorta stented in the descending portion and restented at a later stage more proximally (two events).

One premature infant with exomphalos and pneumonia who had stenting of the right ventricular outflow tract as a bridge to further palliation/repair.

Helix closure of a small atrial septal defect with a residual leak through the device, who later suffered a transient ischaemic attack and had the leak closed with an Amplatzer cribriform device.

One large PDA who had an Amplatzer plug deployed and was left with a residual large PDA, and who had a second Amplatzer plug inserted.

Embolisation of a right coronary artery fistula.

Three cases of right ventricular outflow tract obstruction who underwent novel RVOT ablation: one Williams syndrome, one post surgical repair of malaligned VSD and one after spontaneous closure of a malaligned VSD.

O-073

Intervertebral disc height in postmenopausal women with osteoporotic vertebral fractures

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Objective: To assess Intervertebral Disc Height in postmenopausal women with radiographically confirmed vertebral fractures.

Methods: Two hundred and fifty seven women were collected randomly from a large directory in a data base of a bone density unit. Every fifth woman in the directory was recruited from the DEXA directory.

The image of the vertebral spine on the computer screen was sought for the women recruited. The adjustment mode was then employed allowing the horizontal cursors to be placed at the edges of the vertebral discs between the tenth thoracic vertebra

Results: 257 Women were divided in five groups according to the menopausal/menstrual status. Forty seven (47) menopausal women were on HRT, 77 women were untreated menopausal women, 21 women were

on bisphosphonates, 30 women were on calcium supplements, 44 women were premenopausal and 38 women had confirmed vertebral fractures. Age and weight difference were noted across groups and statistical.

The vertebral fracture group was noted to have the lowest disc height ($1.57 \pm 0.1 \text{ cm}$) of the 3 discs D1 - D3. The D1 - D3 disc height in the HRT and premenopausal groups were similar ($2.15 \pm 0.14 \text{ cm}$) and ($2.01 \pm 0.19 \text{ cm}$) respectively. The disc heights in the other three groups (Calcium 1.77 ± 0.08 , Untreated menopausal group $1.82 \pm 0.12 \text{ cm}$, Bisphosphonates $1.88 \pm 0.12 \text{ cm}$) were significantly lower than the oestrogen replete groups but were significantly higher than the osteoporotic vertebral fractures group.

Conclusion: Postmenopausal women with vertebral fractures have significantly low disc heights. The disc heights are significantly lower than untreated and HRT treated/premenopausal women. These results suggest that the discoid shape and viscoelastic properties of the intervertebral discs may be relevant to the genesis of osteoporotic vertebral fractures.

O-074

Polycystic ovaries produce 75 times more anti-Müllerian hormone (AMH) than normal ovaries

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AMH has been identified in the adult ovary. Serum AMH levels in women with PCOS were 1.5–5 fold higher than in women with normal ovaries, the rise assumed to be secondary to increased number of follicles. Interestingly, treatment with metformin caused a significant reduction in serum AMH levels. We measured AMH in follicular fluid and granulosa cells (GCs) from normal and PCO (ELISA, DSLabs). Granulosa-luteal cells (GLC) were incubated \pm metformin (10–7 M) and cell lysate AMH protein and mRNA assessed by ELISA and qPCR. Follicular fluid AMH was mean (range) 4 (0.3–16) ng/ml (n=18). Levels declined exponentially with increasing follicle size, being undetectable in follicles > 9mm. AMH in granulosa-conditioned medium ranged from undetectable to 1.7 ng/ml (n=17) with levels again falling with follicle size, becoming undetectable above 10mm and in GLC. AMH in GCs from anovPCO was on average 100 times higher than from normal and ovPCO ($p < 0.001$): mean anov PCI 27.4 ng/ml (n=6, range, 17.2–42.7), ovPCO 1.4 (n=12, 0.025–7.6) and normal 0.29 (n=14, 0.025–1.7). FSH (5 ng/ml) significantly reduced AMH in GCs from PCO ($p=0.008$) (n=8), but not normal ovaries. Both AMH mRNA and protein were significantly reduced by metformin (n=4, $p < 0.05$).

In summary, AMH production falls as follicles grow. Levels of AMH are 100 times higher per granulosa cell from anovPCO compared to normal. FSH reduced AMH production and metformin down-regulated AMH protein and mRNA levels.

These data indicate that removal of AMH is essential for follicle selection and implicate raised AMH in the mechanism of anovulation in PCOS.

O-075

Use of antenatal dexamethasone in late pregnancy and its effect on incidence of neonatal respiratory distress after elective caesarean sections

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Background: Delivery by elective caesarean section at term has been associated with a higher incidence of neonatal respiratory distress compared to normal vaginal delivery. A previous multicentre randomised study showed that antenatal betamethasone and delaying delivery until 39 weeks both reduce admissions to Special Care Baby Units with respiratory distress after elective caesarean section at term

Aim: To assess whether steroids reduce respiratory distress in babies born

by elective caesarean section at term.

Method: A prospective pragmatic randomised controlled study, carried out in the Obstetrics and Gynaecology Department, St Luke's Hospital. Women who are planned to deliver by elective caesarean section after 37 or more completed weeks of gestation, are pragmatically randomised with those firms who will have a policy to give treatment to consented mothers compared to firms who will carry on with their practice as is currently usual. Treatment includes two intramuscular doses of 12mgs dexamethasone given 12 hours apart, with delivery occurring at least 48 hours after the first dose of dexamethasone. Statistical analysis will be carried out using a one way ANOVA to compare the different groups, and significance levels will be calculated.

Outcome variables: The primary outcome is admission to the Special Care Baby Unit with respiratory distress. Other variables assessed include age of the mother and parity, gestational age, weight of baby, apgar scores and type of anaesthesia.

O-076

The effect of sildenafil citrate on the Sultan and Modified Sultan scores in women with severe dysmenorrhoea

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Aim: To investigate the Sultan and Modified Sultan Scores after treatment with sildenafil in women suffering from severe dysmenorrhoea.

Method: A small (8 patients) double blind placebo controlled trial, using Sildenafil citrate and ibuprofen during the first 3 months, followed by placebo and ibuprofen for the next 3 months. Symptoms and quality of life were assessed with the Sultan score and Modified Sultan score before, 1hour and 2 hours after medication.

Results: During the 3 months of treatment with sildenafil, there was a statistically significant improvement in abdominal pain ($p=0.017$), pelvic heaviness/pain ($p=0.047$), lethargy ($p=0.026$), number of days off work ($p=0.024$), the Sultan and Modified Sultan scores ($p=0.012$), compared to baseline. Comparing the 3 months of treatment with placebo to baseline, there was a significant improvement in abdominal pain ($p=0.016$), pelvic heaviness/pain ($p=0.016$) days off work, the Sultan and Modified Sultan scores. When comparing sildenafil to placebo there was a statistically significant improvement in back ache ($p=0.046$) and pelvic heaviness/pain ($p=0.023$)

Conclusion: In this small study, sildenafil appears to positively improve the Sultan and Modified Sultan scores. Certain symptoms such as backache and pelvic heaviness/pain improved significantly. One possible explanation may be that sildenafil's vasoactive influence, especially in the genital region may be responsible for the improved blood flow. The positive impact on the metabolism and oxygenation of the tissues concerned, may be responsible for the observed improvement of symptoms.

O-077

Dydrogesterone: a possible preventative treatment for preterm delivery

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Two recent trials indicated that progesterone may be useful in preventing preterm labour in high risk patients. Both treatments have their problems especially in assuring compliance.

A possible alternative is dydrogesterone which is a progestin in oral form. Dydrogesterone is used in cases of miscarriage with significant success. The rationale of this study is that preterm labour is a continuum of pregnancy loss similar to miscarriage differing in that it occurs at a later stage. Dydrogesterone has also been implicated in reducing the incidence of pre-eclampsia a common cause of preterm delivery.

Methods: Patients were recruited from two firms which have a significant input from the miscarriage clinic and SANDS (Stillbirth and Neonatal Death

Society). These were patients with recurrent miscarriage, neonatal death related to preterm labour or preterm delivery due to medical conditions such as pre-eclampsia. Also included were a number of women with multiple pregnancies. These women opted to continue dydrogesterone beyond 22 weeks until 34 weeks in an effort to avoid preterm delivery.

Results: The high risk group parameters were compared to a group of contemporaneous women at low risk and the background population. Preterm delivery occurred in 5 out of 58 (8.6%) women at high risk of preterm delivery compared to 7 out of 120 (5.8%) in the low risk group. The occurrence of preterm delivery in the Maltese population is 5.4% similar to the low risk group.

Conclusion: Dydrogesterone appears to attenuate the incidence of preterm delivery in the high risk group assessed in this study. The above results may be due to the immunomodulatory properties exerted by dydrogesterone possibly preventing preterm labour and reducing the onset of pre-eclampsia.

O-078

The emotional well-being of Maltese men and women during the transition to parenthood

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Background: There is an impressive amount of literature suggesting that the stress of the adaptation to parenthood can lead to non-psychotic depression in mothers during the antenatal and the postpartum period. On the other hand literature examining prenatal and postnatal mental health in men is still in its infancy.

Aims and methods: A longitudinal study using a mixed methodology design is underway to explore ways how midwives may educate and support the needs of men and women during their adjustment to parenthood and to examine the pregnancy and the postpartum period experience of Maltese parents. Maltese first-time parents were randomly recruited from the Antenatal Clinic, Karen Grech Hospital, between February- September 2005, by means of an interview (mean: 19 weeks). Four hundred and forty-two first-time parents (221 men, 221 women) were assessed using a number of self-report questionnaires. Data was collected in three phases, during pregnancy, at 6 weeks and again at 6 months postpartum. This paper presents results on the emotional well-being of men and women on using the Edinburgh Postnatal Depression Scale.

Results: Highlight that both men and women are suffering from emotional distress during the transition to parenthood. The immediate postpartum period, is the most stressful time for men and women, however parents were found to be still stressed at 6 months postpartum.

Conclusion: Men and women appear to be ill-prepared for the impact of parenthood on their lives.

O-079

Geriatric and General Medicine: together or apart?

P Crome

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Geriatric medicine is that branch of internal medicine that is concerned with that group of older people whose health is compromised by multiple pathology, disability, frailty and/or psychiatric co-morbidity. A number of sub-specialties have now been recognised (e.g. continence, falls, stroke). In most countries of the world geriatricians train first as internists and then in geriatric medicine. In the UK almost all geriatricians are also recognised specialists in general medicine. In addition the majority but not all practice as internists taking part in the general medical hospital, receiving emergency admissions of all ages and continuing their care in hospital. This approach is supported by the British Geriatrics Society because it places geriatric medicine expertise firmly in the acute hospital. This is a departure from the origins of geriatric medicine in the UK. In the early days of the specialty almost geriatricians worked in separate hospitals that usually had limited investigative facilities and were not equipped for emergencies.

The precise role of the geriatrician in the acute hospital varies from hospital

to hospital. In addition to 'take' the geriatrician may visit admissions units daily, provide immediate expertise to surgery and orthopaedic wards and run stroke units as well as providing specialist geriatric medicine care to their own patients. It is now common to find hospital teams of five or more geriatricians with perhaps 80% undertaking acute and rehabilitation duties whilst others concentrate on community aspects of care. With increased numbers of consultants it is possible to provide early interventions for all frail older people who need specialist involvement including those admitted to the acute hospital.

O-080

An evaluation of prescribing habits in a chronic care institution for the elderly

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Aim: To evaluate whether prescribing habits and related documentation in a chronic care institution reached recommended optimal levels.

Methods: All prescription charts at St Vincent de Paule Residence were examined. Data collected included the amount and types of both regular and 'as required' medications. Prescription documentation was assessed by noting whether (a) basic patient details including allergies were entered appropriately (b) all drug entries were written and signed in an approved manner by an identifiable doctor (c) stopping or altering a medication was carried out in the recommended manner.

Results: 280 charts were analysed. The mean number of drugs per patient was 6.2 (0 – 15). 35.3% were on hypnotics, 24.0% on anxiolytics and 19.8% on neuroleptics. 20.5% of 'as required' prescriptions were for psychoactive drugs. 34.5% of oral hypoglycaemic prescriptions were for long-acting preparations whilst 56.1% of antiparkinsonian medications were anticholinergics. Only 6.9% of prescriptions were written out by the ward doctor whilst 24% remained unsigned. The allergies section was omitted in 82.9% of charts. The starting or stopping date of a medication was not documented in 32.7% and 71.2% of cases respectively. Alterations in dose or frequency without re-writing the prescription were noted in 5.7% and 6.3% of cases respectively.

Conclusions: Poly-pharmacy, a high prescription rate of psychoactive medications and the common usage of drugs which are not recommended in the elderly were identified at SVPR. Several omissions were also noted in prescription documentation. An evaluation of medication charts helps indicate which prescribing habits need correcting to achieve optimal levels in a chronic elderly care institution.

O-081

Does a Parkinson's disease class improve the knowledge of Parkinson's disease in patients and their carers?

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Objective: To evaluate the knowledge of Parkinson's disease patients and their carers on the disease before and after a series of educational classes.

Design: An explorative interventional study.

Setting: The Geriatric day hospital at Zammit Clapp, Malta.

Participants: 10 cognitively intact Parkinson's disease patients aged 60 years and over together with their informal carers.

Method: 10 weekly one hour lectures were delivered to all participants. They were asked to complete a 16 question True/ False format questionnaire (in English or Maltese) on Parkinson's disease before and after the 10 week course of teaching.

Results: Complete data sets were available for 7 patients and their carers. Using the Mann-Whitney U-test, the mean score of the patients was 11.9 and 11.3 (out of a potential total score of 16) before and after the course respectively (p=0.53), while the mean score of the carers was 12.0 and 11.1 before and after the course respectively (p=0.80). Grouping both patients and carers together, the mean score was 11.9 and 11.2 before and after the

course respectively ($p=0.43$).

Conclusion: At this stage, there was no documented improvement in the knowledge of Parkinson's disease through an interdisciplinary Parkinson's disease class for patients and their carers attending a geriatric day hospital. Larger studies are however warranted in order to further test this hypothesis.

O-082

Evaluation of the Parkinson's class programme provided at a rehabilitation hospital for the elderly

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Introduction: Treatment in Parkinson's disease mainly focuses on the relief of key symptoms of rigidity, bradykinesia and tremor but other problems consequently experienced such as difficulties with mobility, balance, activities of daily living, communication, eating, swallowing, tiredness and depression progressively affect dependency levels. A comprehensive service consisting of a ten-week programme of one-hour weekly sessions and run on a multidisciplinary basis was designed to help improve patients' quality of life; to advise on coping skills and provide support whilst addressing important specific difficulties encountered with several common activities; and to increase awareness of Parkinson's through information and education.

Objective: To evaluate and further develop the service provided to patients with Parkinson's disease and their informal carers.

Method: From forty-five patients referred by the interdisciplinary team at Zammit Clapp hospital, fifteen patients were recruited to the programme. On completion of the programme, participants were surveyed through a self-reported questionnaire on the information, exercise sessions and handouts provided; the knowledge gained; activities carried out; level of carer participation; support provided by staff; and facilities.

Results: All participants said the information provided was well explained and helpful but that the input provided by team members required repetition. Activities were considered to be relevant and stimulating. However, 67% of patients felt that ten sessions were not enough and that classes should be held regularly. Seventy seven per cent of patients were satisfied with the organisation of the programme.

Conclusion: The service provided was found to be effective and assisted in improving patients' quality of life.

O-083

Official approved translation of the EQ-5D health questionnaire into the Maltese language

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Aim: To have an officially approved translation of a generic quality of life questionnaire, the EQ-5D (EuroQol-5 dimensions), into the Maltese language.

Method: The English version of the EQ-5D was independently translated into Maltese by two experienced translators creating two Maltese versions. A consensus version was obtained from the two translations and sent back to the EuroQol Business Management together with a report on the translation process. The FACIT back translated the first consensus version into two English versions by two independent translators and these were compared to the original version. A second consensus version was produced after incorporating the necessary changes and this was submitted to the EuroQol Business Management. The second consensus version was tested on 8 lay respondents, native speakers of the Maltese language. The respondents were a mix of healthy individuals and patients. The healthy individuals consisted of 4 individuals aged 33-73 years with a M:F ratio of 3:1. The patient group consisted of 4 individuals aged 51-67 years with a M:F ratio of 1:3 with an

average of one chronic illness. The questionnaire was self-completed by the respondents. The respondents were timed during the completion of the questionnaire. When the questionnaire was completed feedback was obtained from the respondents about any difficulties with understanding or answering the question/instruction, ambiguous wording, whether the language used was easy to understand and whether the respondent would ask the question or formulate the instruction in another way. Based on the comments from lay subjects a third consensus version was produced which was sent to the EurQol translation review team for a final version of the EQ-5D in the Maltese language.

Conclusion: An officially approved Maltese version of the EQ-5D has been produced and the next step would be to validate it on a larger sample of the Maltese population.

O-084

Do older people perceive their visual loss?

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Background: Visual impairment in old age is a major health problem that affects an increasing number of older people. As most of the common eye problems progress over time, older people might adapt to these conditions and may not be fully aware of their visual loss. Until the cumulative effects of the visual impairments result in the loss of physical, social and psychological functioning, most of the visual impairments may thus remain undiagnosed.

Aim: To test the awareness levels of degree of visual loss of older inpatients in an assessment and rehabilitation geriatric hospital.

Methods: In this semi-qualitative study, 10 patients, chosen on a random basis from English-speaking individuals with an abbreviated mental score higher than 6, were assessed with the National Eye Institute Visual Function Questionnaire-25 (NEI VFQ-25) and the Snellen distance visual acuity chart between 6th March 2006 and 1st April in Zammit Clapp Hospital, Malta. The VFQ-25 results were averaged on the sub-scales of general health, general vision, ocular pain, near activities, distance activities, social functioning, mental health, role difficulties, dependency, colour vision and peripheral vision. Both the VFQ-25 results and the Snellen Chart results were classified as poor, moderate and good functioning. The overall VFQ-25 results were then compared to the results of the Snellen Chart with chi-squared test

Results: The comparison of the VFQ-25 results and the Snellen Chart results showed an evidence of significant difference between these scores. Comparison of general vision sub-scales with the near activity, social functioning, role difficulty and dependency sub-scales did not show any evidence of significant difference.

Conclusion: This study showed that older inpatients were not aware of their visual problems although they experienced functional problems. This finding is especially important in adapting screening tests for visual impairment in older people.

O-085

Regulating doctors in the United Kingdom

D Hatch

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When established in 1858 the General Medical Council (GMC) confined its disciplinary role to protecting the public from doctors accused of 'infamous' behaviour. In 1980 it introduced health procedures to deal with sick doctors and since 1997 it has also regulated poorly performing doctors.

Performance is what a doctor actually does, whilst competence is what he/she is capable of. Whilst an incompetent doctor cannot perform reliably, a competent one may or may not do so depending on many factors, including health. Early detection and local remediation provide the best outcome, and the National Clinical Assessment Service is a government organisation whose advice employers are now required to seek in dealing with problem doctors. Failure of local processes indicates referral for performance assessment by the GMC. This is in two parts; a peer review visit to the doctors place of work by trained assessors (two medical and one non-medical) and a test of competence. The peer visit includes environmental analysis, observation of actual practice, structured interviews with colleagues, assessment of clinical

records and both case based and portfolio based discussions with the doctor. The test of competence comprises knowledge and skills tests. The process is kept up to date in association with the medical Royal Colleges.

Recent high profile cases have damaged public confidence in medical regulation based on adverse incident reporting, and a system of five yearly re-certification is currently under consideration.

O-086

The influence of the anaesthetic technique on the surgical outcome of patients after fractured hip surgery

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Introduction: Several factors have been associated with increased morbidity and mortality after surgery for hip fractures. Age, co-existing medical illnesses, the timing of surgery after trauma, the type of anaesthesia and the period of post-surgical immobilization are all factors which are known to play a role in the outcome.

Aim: The aim of this retrospective and consecutive study was to assess the impact of the anesthetic technique on the various aspects of the surgical outcome.

Method: After obtaining ethical approval, 123 patients' files from a total of 209 emergency admissions between June and December 2003 for hip fracture surgery, were traced from the records department. The type of anaesthesia used, either general or regional anaesthesia alone or in combination, common complications, mortality and length of hospital stay were recorded.

Results: 75% of hip surgery performed at St Luke's Hospital Malta, were emergency procedures. 52% were dynamic hip screw insertions. Average age was 72 years, 38.21% of patients were between 80-89 years of age. 47% of patients received general anaesthesia while 50% received regional block. The 30 day mortality after surgery was 13.8% after general anaesthesia and 8% after regional anaesthesia. The one year mortality was 29.3% after general anaesthesia and 14.7% after regional anaesthesia. There was no difference in the duration of hospital stay between patients receiving regional or general anaesthesia (14.3 days versus 13.04 days).

Conclusion: Regional anaesthesia reduces postoperative mortality and morbidity, but since the etiology is often multifactorial in nature, using unimodal interventions such as regional anaesthesia will not necessarily decrease mortality.

O-087

Genomics in cardiac surgery

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Cardiac surgery under CPB is always associated with a broad array of inflammatory, neuroendocrine and metabolic changes in the whole organism which may progress to hyper inflammatory response known as "post-pump syndrome". Up to 20% of all patients from "low risk group" developed postoperative complications directly related to CPB usage. With the current clinical and laboratory methods we are still not able to identify that patient who is under risk of developing post operative complications. Modern medicine needs new biomarkers which are able to provide potential for linking laboratory findings to the real clinical situation and to provide complete information about the extent of injury, mechanisms of injury, response and repairing processes and interplay between them with simultaneous measurements of entire cellular classes or molecules. This became possible with the advancement brought by the microarray technology. Dissection of the molecular mechanisms based on expression patterns of tens of thousands of genes, achieved by microarray technology can serve as fingerprint for the improvement of knowledge regarding CPB influence on the whole body inflammatory reaction and help to overcome limitations of current diagnostic methods and scoring systems applied in intensive care medicine. Microarray technology can open the direction to better understand processes that occur under the CPB. It will also give the

opportunity to select appropriate method of perioperative treatment

O-088

The introduction of a nurse-led sedation protocol in intensive care leads to a reduction in mortality in patients undergoing prolonged mechanical ventilation

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Introduction: Mechanically-ventilated intensive care patients often need to be sedated to tolerate ventilation. However, over sedation can itself lead to an increase in morbidity and mortality by delaying weaning and prolonging ventilation. There is also some evidence that sedatives may alter the patients' immune response. The introduction of a regular assessment of Department of sedation coupled with a protocol that allows nurses to adjust the dose of sedatives accordingly has been shown to improve outcome.

Aim: To show that a nurse-led sedation protocol introduced into our local intensive care unit (ITU) leads to a decrease in mortality.

Methods: The study was conducted in three parts. The first part consisted of an audit of current sedation practice and outcomes and was performed over a six-month period. All patients undergoing prolonged (>24 hours) mechanical ventilation were included. The second part involved an educational programme directed at nurses and doctors explaining the rationale behind the introduction of a sedation protocol. The third part saw a re-audit performed after the protocol had been introduced to demonstrate that things had indeed changed and that outcome had improved.

Results: A total of 170 patients were assessed. The two groups were well matched with respect to size, age, sex and APACHE score. The patients in the group managed by a sedation-protocol spent more time optimally sedated i.e. comfortable but rousable and cooperative. The mortality was significantly reduced (26.5% vs. 49.4%, $p=0.003$) in this group. This reduction was not clearly related to faster weaning from ventilation.

Conclusion: The use of a nurse-led sedation protocol in mechanically-ventilated intensive care patients results in better sedation and improved mortality.

O-089

Outcome of patients admitted to intensive care with meningococcal septicemia/ meningitis

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Introduction: Meningococcaemia results in a fulminant infection and causes substantial morbidity and mortality worldwide.

Aim: The purpose of this retrospective and consecutive study was to document the outcome of the patients admitted to the intensive care unit of St Luke's Hospital Malta over a two year period from January 2004 to December 2005, as well as to identify any predictors associated with worse outcome or death.

Method: Patients' notes and intensive therapy charts were obtained from the records department. Dermographic data, type of clinical presentation, time that elapsed between the onset of symptoms and the first dose of antibiotics, investigation results, length of stay in the intensive therapy unit and mortality rate were recorded. The survivors were re-assessed at the time of the study to quantify the degree of residual morbidity and quality of life related to their meningococcal disease.

Results: During the 2-year period 2004-5, 10 patients were admitted to the ITU. Of these 6 were in 2004 and 4 in 2005. Three patients were admitted with meningococcal meningitis while 7 had meningococcal septicemia. Of these, 3 patients died and 7 patients survived and eventually discharged home.

Summary: This study shows a relatively low incidence of meningococcal disease requiring adult ITU admission (3 years and older). The mortality

rate was 30% (3/10) whilst the morbidity of the survivors and their quality of life ranged from full recovery to various grades of organ dysfunction. Factors associated with worse outcome or death can be extrapolated from our data.

O-090

Improving service delivery in an outpatient setting

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Problem: increasing waiting lists, inappropriate referrals and mismatched scheduling led to suboptimal clinic use. Better use of clinic resources was identified as a priority to improve patient care. At the time of initiation of this project, no systems existed for prioritization or analysis of referral data, or clinic throughput.

Design: prospective review of referrals during 2004-6 in clinics at the interface of primary and secondary care. The aim was to identify causes of the problem, introduce changes and reassess regularly.

Setting: Two MCC/Schedule V Clinics (Floriana/Gzira) prospectively collated referral data; observation of factors impinging on patient throughput.

Key measures for improvement: waiting lists, inappropriate referrals, availability of patient notes, patient throughput and scheduling, monitoring of non-attenders.

Strategies for change: monitoring of referrals for prioritization, vetting for inappropriate referrals, introduction of protocol, amendments to appointment letter with reminders re investigations, medication and documentation; availability of St Luke's Hospital notes for all patients; introduction of records for all patients, use of telephone follow-up, and one-stop appointments, management of non-attenders.

Effects of change: reduction in waiting lists from over three months (Jan 2004) to four weeks (July 2006); early redirection of inappropriate referrals; improved patient scheduling and throughput; improved record keeping, reduction in non-attenders.

Lessons learnt: appropriate proactive management strategies can result in more appropriate use of limited resources; further improvement will require interdepartmental and intercollegial collaboration, as well as improved support services.

O-091

Clinic waiting time at the lipid clinic, St Luke's Hospital

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Waiting time in clinic is defined as the interval between the time of appointment and the actual time of encounter with the health care professional.

Objective: To determine the clinic waiting time (CWT) at the lipid clinic, to identify demographic and geographic variables that may affect it, and to compare the CWT with a standard set in the Quality Service Charter.

Design: Cross-sectional study.

Participants and setting: New cases and follow-up cases attending the lipid clinic at St Luke's hospital between September 2003 and July 2004 and seen by the consultant.

Data collected: Date of clinic; time of appointment as appears on the patient administration system printout for the clinic; time of entry in doctor's office; age; sex; locality of residence; new case or follow-up case.

Data analysis: Mean and median CWT was determined for both sexes, new cases, follow-up cases, and region of residence.

Results: The mean CWT was 31 minutes (median 15 minutes). For appointments between 8:00 and 10:00 hours the mean CWT was 44 minutes (median 37 minutes) and for appointments after 10:00 the mean CWT was 10 minutes (median 0 minutes). The proportion of patients seen within 30 minutes of their time of appointment was 0.6. Of these, more than one half

(0.55) were seen before the time of appointment. The proportion of patients with a CWT longer than one hour was 0.2 and was twice as much for new cases than for follow-up cases (0.4 versus 0.2). This was constant for the various geographic regions.

Conclusion: Clinic waiting times at the lipid clinic compare favourably to those reported for the outpatients in general. New cases have the longest CWT. There is a positive correlation between number of appointments over time and the CWT, but no correlation between region of residence and CWT longer than one hour

O-092

An evaluation of the discharge planning process at Zammit Clapp Hospital

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Older people are being discharged from hospital to the community with higher levels of dependency. Discharge planning is an essential component of service delivery and has substantial implications for the use of health and social care resources. Quality practices in health care result from structured reflection on what was done, what was achieved and what could be done better, then putting constructive actions in place to change practices.

This study was carried out to assess the extent to which patients' and carers' have been involved and have been informed about the discharge process and to assess their level of satisfaction with the discharge planning process at Zammit Clapp Hospital, an acute and rehabilitation hospital for the elderly in Malta.

The study consisted of a convenience sample of 50 patients and 50 carers. A mixed research design consisting of quantitative and qualitative data was used. Interviews were carried out by the researcher one-week post discharge from Zammit Clapp Hospital.

The main findings suggested that despite the fact that an adequate amount of information was given to patients and carers some areas in information exchange and education sessions merit improvement. Post discharge needs were assessed and discussed with patients' and carers' while at ZCH. The involvement and expectations of carers in the discharge planning process and outcome differed from that of patients. Overall patients were satisfied with the discharge planning practices and services at ZCH. In retrospect carers said that they were well prepared for caring for the patient while in hospital.

O-093

Emerging ethical themes in European Research. Ethical aspects of Research Projects under FP6

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Aim: All research activities have to conform with ethical norms and standards; this is particularly so if they are to be eligible for EU funding. An overview of the relevant EU standards for FP6 is presented, together with emergent themes that should be important for FP7.

Resume: Current standards related to European research are presented with special reference to the use of human biological samples, personal data and gene-banking. Research involving persons (including those unable to give consent, children, pregnant women and healthy volunteers) is addressed, as well as personal data protection. The use of animals, including transgenic animals, and non-human primates is another area given great importance in European research. Cooperation with developing countries, the place of national ethical consent, the identification of conflict of interest and its management, and the ethical implications of research results are also addressed. The use of human embryonic stem cells and 'no-go areas' under FP6 is described. Some newer emergent areas are described.

Conclusion: an awareness of the relevant ethical norms and legislation, as well as the emergent themes is necessary for many research areas eligible for EU funding. This should be of interest to a wide audience.

O-094

Should pharmacies be involved in surveillance for influenza-like illness?

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Introduction: Over the counter medicines (OTCs) are commonly used as self-treatment for influenza-like illness (ILI). Monitoring sales of OTCs might give earlier indication of the onset of the influenza season. CDSC-NI set up a pilot pharmacy-based surveillance system in Northern Ireland (NI) between October 2005 and April 2006. The aim was to determine whether monitoring sales of cough and cold medicines would provide earlier warning of the onset of influenza seasons.

Methods: Weekly sales data were sent to CDSC-NI for all OTC medicines sold from 47 pharmacies representing 12.5% of all pharmacies in NI. Cough and cold medicines were monitored as a proportion of total OTC sales. CUSUM charts and confidence intervals were used to detect significant increases in sales when compared to Serfling-type regression models and generate alerts. Trends in OTC sales were compared with ILI rates from the Northern Ireland General Practice sentinel surveillance scheme.

Results: Sales for paediatric influenza medications peaked during week 6 of 2006, two weeks prior to ILI reports. The first alert was generated two weeks before the first detectable increase in sentinel GP ILI rates. The onset of the flu season could not be detected by monitoring sales of adult cough and cold medicines as the increase in sales was too small to be detected.

Conclusion: Monitoring sales of children's flu medications can give advanced warning of the onset of influenza seasons. Surveillance of paediatric cough and cold medicine sales could be considered as an additional surveillance system for influenza like illness.

O-095

Paramedics' and pharmacists' attitudes towards changes in working times in St Luke's Hospital

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Aims: In view of the increased focus on efficient utilisation of resources and the likely future changes in hospital management, this study sought to investigate the implications of changes in working times for paramedics and pharmacists at St Luke's Hospital, to explore the effects on their personal commitments, to assess current working pattern satisfaction and to identify the influencing factors for alternative working pattern implementation.

Methods: A descriptive, exploratory research design included a self-administered questionnaire distributed to 330 paramedics and 42 pharmacists followed by a focus group with representatives from each profession. Another focus group with line managers was then conducted followed by elite interviews with the Director of Human Resources and two Union Representatives. Descriptive and inferential statistics were used for quantitative data and content analysis for qualitative data.

Results: Overall, paramedics and pharmacists were satisfied with current working patterns particularly when working daily hours and reduced hours. Flexible working hours was the most preferred alternative pattern, also discussed significantly in the focus groups and elite interviews. Work pattern preferences would be influenced by lifestyles, family commitments and health. The most influential factors for the implementation of new work patterns included participation in discussions, staffs' opinions and the information given.

Conclusions: More flexible working patterns would provide employees with time for commitments but also maximise utilisation of resources and provide a more efficient service. Employees should be actively involved to prevent resistance to changes in order to ensure the provision of a better service thus meeting the patients' needs.

O-096

A first study on the frequency and phenotypic effects of HFE gene mutations in the Maltese population

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Haemochromatosis heterogeneity has been reported in south European populations. However, no genetic studies have been carried out amongst subjects of Maltese descent to determine the allelic and genotype frequencies and assess their phenotypic expression. In this study, 250 anonymous DNA samples from randomly selected newborn subjects, 101 Beta-thalassaemia patients, and 32 patients with a clinical diagnosis of hereditary haemochromatosis were selected. The C282Y mutation was found to be absent in all the subjects tested. The overall allele frequencies of H63D and S65C were 18.5% and 0.6% respectively. Six subjects were found to be homozygous for H63D whereas three subjects were found to be double heterozygote for H63D and S65C. No significant difference was found in the HFE allele frequencies between the three categories of the individuals studied. These results indicate that, unlike most European counterparts, C282Y is not the cause of haemochromatosis in the Maltese islands. The study also shows no significant difference in ferritin levels between different H63D genotypes amongst patients with iron loading disorders, implying that other genetic and/or environmental factors have an important role in the pathogenesis of haemochromatosis in Maltese patients. The search for new HFE and HAMP mutations proved negative; however a genetic framework for S65C is described for the first time.

O-097

The value of a routine duodenal biopsy at gastroscopy in diagnosing Coeliac disease

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Background: Coeliac disease is thought to be a common and under diagnosed medical condition which is often associated with considerable morbidity and mortality. The presenting symptoms associated with Coeliac disease are often non-specific and clinically silent, as are some of its complications, like osteoporosis. Coeliac disease is best diagnosed by finding increased epithelial lymphocytes and partial/total villous atrophy on histological examination of biopsies taken from the second part of the duodenum (D2) at gastroscopy. Unfortunately some cases with histologically proven Coeliac disease will have a normal endoscopic mucosal appearance of D2.

Aim: To determine if taking a duodenal biopsy on all patients at gastroscopy will diagnose patients with coeliac disease who would otherwise have been missed.

Study design: A prospective study in a teaching hospital endoscopy unit during years 2004 and 2005

Method: Altogether 923 consecutive patients attending for gastroscopy were included in this study. At least two distal duodenal biopsies were taken if possible, unless a contraindication was present.

Results: In 234 patients a duodenal biopsy was clearly indicated. Duodenal biopsies were also performed on 450 patients from the remaining 689. 5 patients from this group were diagnosed as suffering from coeliac disease, 3 of whom had a normal duodenal appearance at endoscopy. In addition 3 patients were diagnosed with giardiasis while in another patient the biopsy was suggestive of Crohn's disease. There were no complications from the procedures.

Conclusion: Taking 2 duodenal biopsies on all patients at gastroscopy unless contraindicated will diagnose new cases of coeliac disease. The cost of opportunistic screening for coeliac is less than Lm2000 per case diagnosed.

O-098

Analysis of waiting time for cadaveric kidney transplantation

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Kidney transplantation is the most cost-effective form of treatment for end-stage renal disease patients. In Malta, the number of patients starting dialysis have increased dramatically over the past 15 years, with an ever-increasing majority of patients being eligible for a kidney transplant.

The aim of the study is to analyse the time period spent by dialysis patients waiting to receive a cadaveric transplant. 50 consecutive cadaveric transplant recipients under the care of one consultant nephrologist were retrospectively studied.

Results: The mean waiting time in months steadily increased over the 12-year study time frame from 16 in 1993-94 to 58 in 2005-06. Blood group A recipients wait significantly more than their blood group O counterparts before receiving their allograft (mean of 76 vs 43 months).

Conclusion: The waiting list is currently 58 months. Similar to many developed countries, the waiting period has dramatically increased over the last decade or so. The main reasons include acceptance of more potential kidney transplant recipients onto the waiting list and a shortage of organ donors. Possible solutions to expand the donor pool, and hence shorten the kidney transplant waiting time, are discussed in detail.

O-99

Effect of switching from subcutaneous to intravenous erythropoietin in haemodialysis patients

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Recombinant erythropoietin (Epo) is the mainstay of treatment of renal anaemia in patients with chronic kidney disease. In April 2003, it became necessary to switch the route of administration of Epo from subcutaneous (sc) to intravenous (iv). We audited this change to assess the effect on Epo requirements.

Method: Our population consisted of 54 prevalent haemodialysis patients under the care of one consultant nephrologist. Epo and iron doses were adjusted according to an established protocol designed to achieve haemoglobin (Hb) of 11g/dl in the majority of patients by setting intervention thresholds.

Results: Complete data were available on 39 patients.

	3x weekly sc	3x weekly iv
Hb (g/dl)	11.09	11.19
Epo dose (iu/day)	587	760

Conclusions: In these unselected HD patients, a considerable and costly 29.5% increase in Epo dosing was required after switching the route of administration.

O-100

Consumption of medicines among adolescents in Malta

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Aims: Research on adolescents has mainly focused on the use of alcohol, tobacco and illegal drugs but little has been done to investigate medicine use among this age group. The aim of this study was to investigate self-reported medicine use among adolescents.

Method: A self-administered questionnaire was used to survey medicine use by fourth-form Junior Lyceum students. Data were collected among 474 boys and girls of average age 15 years who were selected by stratified random sampling. The questionnaire investigated the prevalence of self-reported symptoms and medicine use during the previous 3 months for ear problems, hay fever and cough and cold; gastrointestinal problems; headache; and menstrual pain. Students also gave information on their use of eye drops, vitamins, topical skin medication, painkillers for sport injuries and antibiotics.

Results: A total of 52.0% of students experienced 3 or more symptoms and a total of 90.3% took between 1 to 9 different medicines during the previous 3 months. Statistically, girls used a significantly greater number of different medicines than boys (p < 0.01). The pharmacy was the most common source for obtaining medicines in the majority of responses (26.8%-76.9%). Of concern is that, 24.5% of the students reported that they had taken medicines without adult guidance.

Conclusion: A high proportion of 15 year-old adolescents reported medicine use in relation to common health complaints. A considerable proportion took medicine without any adult guidance. It is suggested that more information about medicines be built into school health education programs in the future.

O-101

Single-stage management for patients with uncomplicated acute gallstone pancreatitis - are pre-operative MRCP and ERCP really necessary?

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Aim: In our unit, patients with uncomplicated acute gallstone pancreatitis are offered acute single-stage management with laparoscopic cholecystectomy, routine intraoperative cholangiography and if necessary, common bile duct exploration. We aim to assess the outcome of these patients and the requirement of pre-operative common bile duct imaging and clearance.

Methods: Over a ten-year period 96 patients with uncomplicated acute gallstone pancreatitis were followed up in a prospective study. All had evidence on ultrasound of cholelithiasis. The median age was 52 years (IQR = 29). The male: female ratio was 1: 4. Jaundice was present in 30% of cases.

Results: The full cohort of patients was successfully managed laparoscopically. Twenty-four patients (25%) had a positive operative cholangiogram. Trans-cystic exploration and basket trawling was performed in 23 subjects. One patient required a formal choledochotomy, clearance and T-tube placement. No peri-operative deaths were recorded and major peri-operative morbidity was recorded in 2 patients - 1 patient had an iatrogenic small bowel perforation which was dealt with through a mini-laparotomy at the end of the biliary procedure, another patient developed post-operative pancreatic abscess which was managed conservatively. Age and gender were not useful predictors of choledocholithiasis. Likewise, there was no statistically significant link between jaundice in pancreatitis and choledocholithiasis (p=0.07) - 18 jaundiced subjects (62% of this subset) had normal cholangiograms. Although statistically significant (p<0.01), ultrasound evidence of bile duct stones had a positive predictive value of only 48%.

Conclusions: Residual choledocholithiasis is absent in 75% of patients with acute gallstone pancreatitis. In patients with ductal stones laparoscopic single-stage management is safe and effective, rendering routine pre-operative MRCP and/or ERCP unnecessary.

O-102

Incidence of breast cancer in women referred for screening to the breast clinic St Luke's Hospital

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Background: Asymptomatic patients who are referred for breast screening are seen at a dedicated session at the breast clinic at St Luke's hospital. This decreases the load from the symptomatic clinic. Although there is no National breast screening programme in Malta, mammography is offered to those at risk. All of these patients are referred by a doctor.

Aim: To outline the demographics, risk factors status, and the incidence of breast malignancy in patients who are referred to the breast clinic for screening mammography.

Method: The medical records of patients referred to the breast Clinic for a screening mammogram were reviewed. Demographic data, family history of breast disease, and other risk factors for breast carcinoma were noted. The results of radiological investigations and any cytology specimens taken were recorded. For patients who underwent surgery, the type of procedure and the histological findings of removed specimens were analysed. Analysis of the risk factors, symptomatology and family history in the affected subjects were done, and compared to the total study population.

Results: The incidence of malignancy in the study population, the stage and grade of disease at diagnosis and the Nottingham Prognostic index for affected subjects will be reported.

O-103

Modified Mathieu procedure for hypospadias repair

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Introduction: The classical aims of hypospadias surgery are 1. An appropriate urinary stream from the tip, 2. correction of chordee and 3. good cosmesis. To these one might add the preservation of sensation. Any procedure which limits scarring and disruption of the blood supply as well as saving the foreskin, would be contributing to this.

Materials and Methods: The procedure chosen for each particular case of hypospadias repair depends very much on the specific anatomy available. As such a variety of operative techniques are available to the Paediatric Surgeon. The Mathieu repair is one such technique. However the loss of the foreskin and pericoronal scarring may lead to a loss of sensation. The Modified Mathieu Repair, which is presented here, preserves the general principles of the Mathieu technique whilst allowing preservation of the foreskin and reducing the extent of the dissection. A series of ten cases of hypospadias repair using the Modified Mathieu technique and performed over a two year period at St Luke's Hospital, are presented here. The selection criteria, operative technique and results after an average follow-up of 10 months are discussed.

O-104

A lower than expected incidence of HPV DNA was detected in Maltese benign and malignant breast tumours

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Background: Human Papillomaviruses (HPVs) are considered quantitatively as the most important group of viruses related to benign and malignant neoplasia in humans. A recent study reported the presence of HPV in malignant breast tissue suggesting that HPV may infect the epithelium of the nipple and areola and proposing a possible association with breast malignancy.

Aims: The purpose of this study was to analyse benign and malignant breast tissue to check whether there was a significant incidence of HPV DNA found in Maltese breast tumours and to assess whether any difference occurs between this incidence in malignant and benign breast tumours.

Methods: Tumour tissue was isolated by deparaffinisation from thick sections of tumour material identified by pathological examination. DNA was extracted by a previously published method. The polymerase chain reaction (PCR) was performed on this DNA using actin primers (to control for DNA quality and PCR efficacy) and with three different sets of HPV primers (to detect most common strains of HPV).

Results: No HPV DNA was detected in any breast tumour in the initial sample of 20 tested, analysis of a larger sample is in progress. This despite clear actin amplification in all samples and HPV clearly detected in cervical tumour DNA

Conclusion: Maltese breast tumours appear to show a lower incidence of HPV DNA positivity than in some published studies.

O-105

A review of radical cystectomies carried out in Malta over the past 8 years

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Aim: This review aims to demonstrate whether there is a trend towards earlier cystectomy for bladder cancer and whether this actually translates into improved survival and morbidity within our practice.

Background: Bladder cancer accounts for almost 9 percent of all cancers diagnosed in Malta in males and just over 2 percent in females. The incidence is reported at 8.7 new cases per 100,000 population per year, an incidence comparable only to Italy in the EU. Those which are high risk superficial or muscle invasive are treated by either radiotherapy or total cystectomy. There is a global trend towards cystectomy as the preferred primary treatment for these cancers, with primary radiotherapy being reserved for surgically unfit patients or those opting for bladder conservation.

Method: We are presenting a review of 55 cystectomies carried out in the Urology Unit at St Luke's Hospital over the past eight years. Data was collected in a retrospective manner by review of patients' case notes, histology and radiology reports, as well as from the National Cancer and Mortality Registries.

Results: We present survival figures for a follow-up period ranging between 6 months to 5 years. Survival figures are also analyzed with respect to tumor grade and stage, number of recurrences prior to definitive surgery, previous administration of radiotherapy, as well as patient risk factors. Disease-specific survival, recurrences and morbidity are also studied.

O-106

Living-donor renal transplantation: our local experience

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Background: Renal transplantation offers the best therapeutic modality in end-stage renal failure. The number of patients in need of a renal transplant has increased significantly. Cadaveric renal transplantation has remained fairly constant. To bridge the disparity, there has been an increasing interest in living-donor renal transplantation.

Aim: This paper seeks to assess the feasibility, outcome and establish local criteria of performing living-donor renal transplantation.

Method: This was a retrospective analysis of living donor renal transplantation performed at St Luke's Hospital under one consultant surgeon (ARA) between October 1998 and August 2006. All patients were discussed by the renal committee. Method of patient selection, preoperative imaging, postoperative complications, renal function, and mortality were analyzed.

Results: A total of 15 patients underwent living-donor transplantation. The median age of recipient was 27years (range 16-61). There was only one

recipient mortality due to overwhelming sepsis, the rest were well after a median follow-up of 36 months postoperatively. The serum creatinine had fallen from a median of 785µmol/l (range1168-446) pre-operatively to 138µmol/l (range 285-96) at one year post-operatively. There were 2 cases of acute rejection, 2 other of borderline acute rejection and 2 further cases developed chronic rejection. No donor mortality.

Conclusion: Living-donor renal transplantation can safely be performed even in such a small institution such as Malta.

O-107

Juvenile Huntington's disease in Malta

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Huntington's disease is an autosomal dominant progressive neurological condition characterized by involuntary movements and dementia. The age of onset is related to the number of (CAG)_n trinucleotide repeats in the Huntington gene. Rarely, the disease manifests itself first during childhood or adolescence as juvenile Huntington's disease, and occurs when gene amplification occurs increasing greatly the number of repeats. Over the 11 year period from 1994 to 2006, three cases of Juvenile Huntington's disease were recorded from among the families with Huntington's disease referred to the genetic clinic for genetic counselling, pre-symptomatic DNA testing or diagnostic DNA testing. The affected individuals were three boys of ages 10, 14 and 21 years at the time of confirmation of the diagnosis by DNA tests. They were from three different families with strong family histories of Huntington's disease. The presenting features of the juvenile cases were distinct from those of adult-onset Huntington's disease. The most characteristic initial manifestations were behavior disorders and a characteristic speech in which words were uttered very rapidly in short phrases separated by short pauses. The speech disorder may be one of the earliest manifestations of motor dysfunction. The other motor manifestations were rigidity and myotonia. Choreiform movements developed later in the course of the disease in one of the youngest of the affected young individuals. All three individuals were males, had over 60 (CAG)_n repeats and had inherited the gene from their fathers, with amplification of the trinucleotide repeats occurring in the process. Diagnosis of juvenile Huntington's disease presents the ethical problems of informed consent and genetic testing in minors, and the delicate procedure of post-test counseling.

O-108

Two-photon imaging of cell-specific fluorophores in transgenic mice - an exploratory tool to study mechanisms of white matter injury

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Relatively little is known about specific pathways leading to structural and functional disruption of axons and glial cells in white matter. Because focal cerebral ischemia in humans damages both gray and white matter, an understanding of white matter injury is important in devising potential therapeutic approaches. We have developed a novel brain slice model from transgenic mice under control of cell-specific promoters to understand interactions between oligodendrocytes and axons under high resolution two-photon microscopy. Our data extends over previous findings the vulnerability of oligodendrocytes and axons both in culture and in slice preparations to glutamate toxicity during stroke and hypoglycemia. Conditions as different as stroke, trauma, perinatal brain injury, and multiple sclerosis may share common mechanisms of white matter injury.

O-109

Are chondroitin and glucosamine in combination effective in the treatment of osteoarthritic pain?

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Aim: As non-steroidal anti-inflammatory drugs today are contraindicated for osteoarthritic pain in elderly patients with cardiovascular disease due to their adverse effects, a review of the evidence was performed regarding the use of oral forms of chondroitin and glucosamine in combination as an alternative treatment.

Method: An internet review for available evidence was carried out of secondary sources (reviews or meta-analyses of primary studies in the Cochrane Database of Systematic Reviews and the Database of Abstracts of Reviews of Effects) and of primary sources (randomised controlled trials in Medline through PubMed and in the Cochrane Central Register of Controlled Trials), followed by a critical evaluation of the results for validity, reliability and applicability.

Results: Three relevant randomised controlled trials with valid, reliable and applicable results were identified.

Conclusion: Chondroitin and glucosamine in combination were found to significantly reduce pain in mild to moderate OA of the knee measured by the global pain visual analogue scale, and in moderate to severe knee OA measured by the WOMAC Scale, while significantly improving disability in mild to moderate knee OA as measured by the Lequesne Index.

Discussion: If the results are generalisable to osteoarthritis of all joints, there are good indications that combined chondroitin-glucosamine in purified therapeutic doses should help care for osteoarthritis patients safely and at modest expense. In order to facilitate any possible recommendations for their use in clinical practice, long-term and larger studies are needed to elaborate more definite results and investigate their preventive use as disease-modifying osteoarthritis drugs.

O-110

A survey of Paget's disease of bone in Malta

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Paget's disease of bone is commonly encountered in the Maltese population. A survey has been conducted on 20 patients with this condition seen at the Medical Outpatient Department/St Luke's Hospital during the first 6 months of 2007. Various aspects of the disease have been analysed: age and sex distribution, familial aggregates, mode of presentation, complications, pattern of bone involvement and a semi-quantitative assay of disease activity as measured by radioisotope bone scintigraphy and serum alkaline phosphatase levels. These characteristics are being compared to previously published surveys of Paget's disease in other countries.

O-111

Biological therapy in rheumatic disease: five year experience in Malta

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Advances in understanding the pathogenesis of many rheumatological disorders over the past decade have resulted in remarkable advances in therapeutic options for many patients suffering from these disorders. The pro-inflammatory cytokine tumour necrosis factor alpha (TNF-alpha) has been shown to be a key mediator in a number of inflammatory disorders, and the development of TNF-alpha inhibitors has proved to be a major therapeutic advance. Initially licensed for use in rheumatoid arthritis, TNF-alpha inhibitors have been subsequently approved for a number of other inflammatory arthritides as well, including ankylosing spondylitis and psoriatic arthritis. Case reports and case series have suggested favourable results with these agents in other connective tissue diseases, including various types of vasculitis. Another interesting area in the field of

connective tissue disorders has been the role of B lymphocytes. Rituximab is a monoclonal antibody that binds to the protein CD20 which is found on the surface of B-lymphocytes. Rituximab has been shown to be effective in patients with rheumatoid arthritis, systemic lupus erythematosus as well as a number of other connective tissue disorders. Three monoclonal antibodies are available within the Maltese National Health Service – the TNF-alpha inhibitors etanercept and infliximab, and the anti-CD20 antibody rituximab. Etanercept was the first biological agent to be introduced in Malta in 2001. At present over 40 patients with various rheumatic disorders are being treated with these agents, over 30 of them being looked after by the author. This paper summarizes the local experience that has been gained with these agents over the past five years.

O-112

Community mental health services in Malta and their development: a review

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Epidemiological research has clearly shown the high prevalence of psychiatric disorder in the community, with one year rates of 30% at primary care level and 8% at secondary care and with up to two thirds of GP attenders suffering from mental health problems. This leads to high morbidity, suffering, reduction or loss of function, burden and marked family distress.

Community mental health services have developed greatly in the developed world and Malta has gradually followed suit. The last years have seen much effort and emphasis given to the development of community psychiatric services and their has been steady progress.

A pilot area of service commencing eleven years ago facilitated the identification of difficulties and challenges in our local context and we learnt much. Following this a strategy document was developed with the participation of all stakeholders.

This has lead to gradual implementation of budding services at primary, secondary and tertiary care levels in the community with the development of multiple teams. This is accompanied by a sense of achievement, excitement and hope but much still needs to be done.

A review of the developments in our community services is done with an exploration of the lessons learnt and our future needs and challenges

O-113

The impact of having a family member facing mental health problems on the caregiver and the family: how can social and psychiatric services be of help?

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Context: With nearly 10,000 patients listed on the Psychiatric Outpatients register and another 400 receiving in patient treatment at Mount Carmel Hospital, circa one person in every eight families faces mental health problems in Malta. In this context, the National Family Commission set up a multidisciplinary research group to assess the prevailing situation with a view to making appropriate recommendations.

Aims: This study seeks to elicit the impact on the caregiver of having a family member facing mental health problems, as well as the effect on children within the family. It also attempts to consider some services available to family caregivers of patients with mental health problems, and to explore research evaluating the effectiveness of these different services.

Methods: As a research tool for the study, the group opted to administer The Involvement Evaluation Questionnaire - European Version (IEQ-EU) by Shene, Wijngaarden and Koeter (1997). The psychometric properties of the

IEQ are well established with the questionnaire available in nine languages where some of the translations have been developed, validated and used in the BIOMED-financed Epsilon study of schizophrenia in five European countries. A further 36 questions were devised by the research group in order to educe the caregiver's views regarding the quality of service and help being offered to the patient and family by the Psychiatric Outpatients Service and the kind of help and support they would suggest

Conclusion: The results of the study shed interesting light on a wide range of issues, presenting a comprehensive profile; data relating to levels of care and encouragement, relationships, preoccupations, financial implications, psychological repercussions; and effects on children. It concludes with recommendations based on the interviewees' responses regarding services used in this sector.

O-114

Establishing whether a community mental health team has managed to reduce the number of psychiatric admissions to hospital

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A project for community-based psychiatric services has been set up since June 1995 and caters for a pilot area consisting of Qormi, Zebbug and Siggiewi. Three of the main objectives of this project were (1) to reduce inappropriate hospital admissions; (2) to decrease involuntary admissions; (3) to decrease the number of crisis referrals (unplanned admissions). In this study, trends in the number of admissions, including whether these were planned or unplanned, as well as in the length of stay, over a ten-year period have been evaluated. This study is based on data of patients seen at one of two clinics held at Qormi Health Centre, and in particular that on a Monday morning. Initial data indicate that of about 300 patients being seen circa 100 patients had psychiatric admissions to hospital. Then the actual number of admissions and the length of stay for each patient were estimated. This information was subsequently subdivided in two subsets, June 1995 - May 2000 and June 2000 - May 2005 and statistical tests were used to evaluate the data gathered in order to establish whether there was any change in the pattern of such admissions as a result of the team's intervention.

O-115

Establishing whether there is a correlation between the psychiatric diagnosis, the number of admissions and the length of stay spent at hospital

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In this study we strive to establish whether there is a correlation between the broad-category psychiatric diagnosis, the number of admissions and the length of stay spent at hospital. The patients included in this study are those who attend the Qormi Health Centre psychiatric clinic on a Monday. Data, regarding their ICD-10 diagnosis, number of admissions and length of stay over the span of 10 years was collected and grouped per individual. Finally statistical tests were used to analyse the raw data. This data is useful so as to determine which subgroups of our psychiatric community require most attention and care, and hence highlights the most vulnerable subgroups in society. This information is vital as it will help us focus more on these groups and as a result will help to improve the community services provided.

O-116

Maltese translation of the Camberwell Assessment of Need

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The Camberwell Assessment of Need (CAN) is a tool for the comprehensive assessment of the needs of people with severe mental illness (SMI). Four broad principles governed the development of CAN. First, that everyone has needs and that although people with SMI have some specific needs, the majority of their needs are similar to those of people who do not have a mental illness, such as having somewhere to live, something to do and enough money. Secondly, it was clear that the majority of people with SMI have multiple needs and that it is vital that all of these are identified by those caring for them. Therefore, a priority of the CAN is to identify, rather than to describe in detail, serious needs. Thirdly, needs assessment should be both an integral part of routine clinical practice and a component of service evaluation. Lastly, the CAN is based on the principle that need is a subjective concept, and that there will frequently be differing but equally valid perceptions about the presence of absence of specific need. Furthermore the CAN is patient-rated as well as carer-rated and thus it provides both a subjective and an objective view of the situation. It was decided that such a useful and valuable tool be translated and modified to cater for the local scene to enable the needs of severe mental illness to be measured. This presentation describes the process of translation from English into Maltese and back-translation into English with the adoption of the necessary modifications.

O-117

Attitudes of medical and dental professionals and students towards research

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Research is pivotal to a country's medical system: not only to improve the quality of health care but also to stay in touch with the dynamics of the system itself.

Aims: To assess attitudes of medical and dental professionals and students towards research, evaluating research conditions, resources, problems encountered. These criteria are used to compare the involvement of students and professionals in Malta with their foreign counterparts.

Methods: Two questionnaires were devised; one aimed towards professionals, the other towards students. The questionnaires were distributed both via hard copy and electronically. Filled questionnaires were collected, data was processed and partial results generated. This study is currently ongoing. Thus far, the questionnaires were only collected from professionals.

Results: Current results, based on preliminary data from 91 questionnaires completed by professionals show that 74% have carried out some form of research after obtaining professional status. Data generated includes frequency of responses per speciality, number of years of clinical practice, frequency of specific difficulties encountered by researchers during specific phases of their work; attitudes to joint research projects between medical/dental professionals, other healthcare professionals and non-medical professionals; comparison between part-time and full-time research; effect of gender on frequency of participation; involvement of students.

Conclusions: Based on current results, experienced professionals acknowledge the importance of research for advances, improvement and innovation in healthcare professions. This ultimately leads to improved treatment, and subsequently, better quality of life for patients.

O-118

Gender and performance in the MD Degree Final Examination in Medicine

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Background: The year 2004 marked a change in the structure of the clinical part of the final examination in Medicine from the traditional format to Direct Observation Clinical Encounter Examination (DOCEE). The written part of the examination together with the objective clinical assessment allows the evaluation of different skills.

Objectives: To evaluate the performance by gender in the overall examination and then separately in each part i.e. the MCQ paper, short answer questions paper, paediatrics, the clinical stations A, B and C, the knowledge assessment stations D (diagnostic) and E (emergency) and the communication station F (history taking) to identify any possible differences.

Design: Final year examination results in medicine obtained over a two year period (2005-2006) were retrieved from datasets held by the Department of Medicine. The results of 111 graduates (males n=57) were analysed for all components of the examination.

Results: In 2005, a total of 62 candidates (females n=34) took the examination; the highest grade was B+ with an overall mark of 78% and the lowest grade was D+ with an overall mark of 51%. There were 4 failures. In 2006, a total of 49 candidates (males n= 29) took the examination; the highest grade was A with distinction and an overall mark of 82% and the lowest was again D+ with a final mark of 51%. There were 5 failures.

Overall females were found to have performed better than their male counterparts where median overall mark was equal for the two groups but the mean was higher in the female group with smaller standard deviation and variance. Females were more likely to get better grading and less likely to fail (two tailed t-test P=0.17). Gender difference in performance was more marked in the clinical stations A, B and C (two-tailed t-test P=0.29)

Conclusion: There is a clear disparity in gender performance and further studies are needed to identify possible causes for this in preparation and in gender characteristics

O-119

Medical students' perspective on pharmaceutical marketing

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Aim: To survey the attitudes of fourth and fifth year medical students in Malta towards pharmaceutical marketing.

Methods: An anonymous questionnaire was distributed containing several questions designed to assess reactions to statements based on a modified five-point Likert scale.

Results: Response rate was 81 out of 110 (73.6%). The majority of respondents (78.7%) do not object to interactions with pharmaceutical companies in medical school. Almost all (96.3%) have no objection to sponsorship of educational seminars. The majority (78.0%) are not against receiving gifts from pharmaceutical companies in general, males more than females (84.0% vs 71.0%). Respondents are most willing to accept a penlight (87.7%), followed by a textbook (85%), stethoscope (81.8%), lunch (75.9%), electronic organiser (69.6%), entertainment tickets (63.7%), and least willing to accept a watch/jewellery (46.2%). Almost half of respondents (46.3%) stated that when prescribing from a choice of drugs that are otherwise identical, they would preferentially prescribe a drug from a company that provided them with gifts or incentives over one that did not. Almost a quarter of respondents (23.8%) believe that information provided about drug effectiveness from pharmaceutical companies is untrustworthy.

Conclusions: Fourth and fifth year medical students in Malta are largely unopposed to interacting with pharmaceutical companies and receiving

gifts from them, especially if medically-related, and would preferentially prescribe drugs from companies that provided gifts and incentives. Results also point towards a general mistrust of information provided by pharmaceutical companies. It will be interesting to compare these responses to those of medical students in other countries.

O-120

The course in Behavioural Sciences in the Faculty of Medicine and Surgery: a review

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The development of the medical student is not based solely on the acquisition of knowledge but also on the development of skills and appropriate attitude. This requires ability to communicate effectively with patients and colleagues, sensitivity to patient needs, patient centred care and the capability to influence patients to take the appropriate decisions and maintain behaviour change in favour of their illness or disorder.

Recent years have seen marked changes in medical school curricula to support this and greater emphasis has also been made post shipman.

The Faculty of Medicine and Surgery in Malta has moved strongly in this direction and new curricula have been developed and introduced.

Leading this change is the course in Behavioural Sciences. Developed throughout the curriculum and with considerable emphasis on student-centred learning in small groups, it focuses on interpersonal communication, teamwork, reflective experience, holistic and patient-centred care, personal development and avoidance of burn out. Recommendations from the GMC 'Tomorrow's Doctors' publication with focus on principles of good medical practice and avoidance of patient dissatisfaction, complaint and litigation are also emphasized.

The institution of this part of the curriculum is described and explored as it has developed in these past four years

O-121

Developing a specialist training programme in family medicine for Malta

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Malta College of Family Doctors

Introduction: Specialist/Vocational Training in Family Medicine in Malta is due to be launched in 2006 and run by the government's Primary Health Care Department. The Malta College of Family Doctors will be responsible for ensuring the quality of the academic content of the programme, of training of trainers and trainees, and of the certification of completion of specialist training.

Duration & structure: The 3-year programme (EU Directive 2001/19) will be based in family practice (50% of the time) and taught using adult learning methods by GP trainers, each paired with one GP trainee. For the rest of the time, the programme will be supplemented by carefully planned attachments with appropriate hospital specialities. The trainees will be in designated training posts throughout, and must attend weekly half-day teaching sessions.

Competence & assessment: Trainees will be required to achieve the community-based competences recommended by WONCA Europe (2002), and hospital-based competences drawn up in collaboration with the heads of the respective hospital departments. Formative assessment will be both pre-course (Phased Evaluation Programme) and in-course (Direct Observation Rating Scales, Phased Evaluation Programme, portfolio-based learning, small group activities, practice assessment). Summative assessment will include a written component (Practical Work, Trainer's Report, Modified Essay Questions and Multiple Choice Paper) and a clinical part (Video and/or Simulated Patient Surgery, Objective Structured Clinical Examination and Structured Orals).

Certification: Successful participants will be certified as having completed the Specialist Training Programme in Family Medicine, and considered to be competent, reflective and self-educating family doctors fit to practice in Malta.

O-122

A simple method for the objective assessment of thenar atrophy - a preliminary study

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Introduction: Although thenar atrophy is caused by a variety of clinical conditions, it is commonly associated with carpal tunnel syndrome. So far thenar atrophy has been assessed subjectively.

Aims: a) To test a simple, novel, objective and quantitative test for the assessment of thenar atrophy, b) Correlate this objective test with subjective evaluation of thenar atrophy.

Patients and Methods: The apparatus consists of a box with a clear glass sheet on the top uncovered surface, with a digital camera placed in the base of the box. 45 hands of 23 healthy volunteers and 23 hands with clinical evidence of thenar atrophy of 12 patients with carpal tunnel syndrome were recruited. Thenar atrophy was classified subjectively as mild, moderate and severe. Patients and subjects were asked to press their hands facing down on the glass sheet and digital photos were taken. The technique relies on the fact that the area where pressure is exerted on the palm blanches. Photos were transferred to photo processing software. After enhancement the photos were transferred to an image analysis software. The thenar area (A) and the rest of the palm area (B) were measured. The thenar ratio was calculated as A divided by B.

Results: Hands with thenar atrophy had a statistically significant lower thenar ratio than healthy hands (0.19 ± 0.09 vs 0.30 ± 0.07 ; P value < 0.0001). So far, the subjective assessment of atrophy cannot be correlated with the objective test.

Conclusion: This method can be a possible objective test for thenar atrophy.

O-123

One year mortality after proximal femoral fractures

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Aim: The most common emergency admissions to the department of orthopaedics are elderly patients with proximal femoral fractures. This study looked at the mortality rate over one year in such patients over the age of 65 years admitted to the Department of Orthopaedics, St Luke's Hospital, Malta. Various factors affecting the mortality rate were assessed.

Method: Data was collected for the periods January - June 2004 and January - June 2005. The medical records of all patients over the age of 65 years admitted to the department were reviewed. Variables assessed included: age, sex, length of time from admission to operation, fracture type (subcapital, intertrochanteric, subtrochanteric), fixation method used, patient's pre-morbid condition (American Society of Anaesthesiologists Score, presence or otherwise of dementia, past medical and surgical history), blood parameters pre- and post-operatively, the need for blood transfusion, type of anaesthesia used, intra- and post-operative events. The patient's morbidity and mortality after one year had elapsed was noted.

Results: 118 patients were collected for the period January - June 2004. Of these, records of 6 patients could not be traced and 29 patients were deceased giving a mortality rate of 0.26.

188 patients were collected for the period January - June 2005. A similar mortality rate was recorded here.

Conclusion: Various factors influence the mortality rate in elderly patients with proximal femoral fractures. Careful pre-operative assessment and optimization help to decrease patient morbidity and mortality.

O-124

Hand infections severe enough to warrant hospital admission

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Aims: 1. To audit the number of very severe hand infections requiring hospital admission - their incidence, causes and predisposing factors, site, treatment prior to admission, management in hospital, length of hospital stay and outcome. 2. To standardize the treatment of such infections which can cause substantial morbidity.

Methods/Results: Data was collected from patients and their files with proper consenting from February 2005 to date. All data was tabulated and results were analysed.

Conclusion: This is a basic research paper on which to improve our management of such infections.

O-125

Hand and wrist configurations in patients with carpal tunnel syndrome

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Introduction: Most cases of carpal tunnel syndrome are idiopathic. Several studies attempted to find an explanation for the idiopathic form of this condition; including body mass index, stature and cross-sectional area of the carpal tunnel.

Aim: To investigate whether there is a correlation between hand and wrist configurations and idiopathic carpal tunnel syndrome.

Patients and methods: Sixty patients with idiopathic carpal tunnel syndrome and sixty healthy volunteers were recruited for the study. The hand and wrist dimensions of each patient and subject were measured using standard engineering Vernier callipers.

Results: The palm width was significantly greater in the patient group. There was no significant difference in hand length between the two groups. Both wrist Department and wrist width were significantly greater in the patient group. The hand ratio, that reflects the difference of both the length and width dimensions of the hand was significantly lower in patients compared to controls (2.20 ± 0.13 vs 2.26 ± 0.14 ; P value 0.015). The wrist ratio, that reflects the difference of both the Department and width dimensions of the wrist was significantly lower in patients compared to controls (0.61 ± 0.09 vs 0.65 ± 0.07 ; P value 0.009).

Conclusion: Patients had squarer hands and wrists than controls. Our findings suggest that the anatomy of the hand and wrist may be important in the development of carpal tunnel syndrome.

O-126

A review of the relationship between obesity and total knee replacement outcome

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As the prevalence of obesity continues to rise in Malta knowing the relationship between Total Knee Replacement (TKR) outcomes and obesity becomes increasingly more crucial. Since a number of studies have linked obesity with the development of osteoarthritis of the knee and excess bodyweight would result in an increase in the stress transfer through a TKR to the surrounding bone, this would suggest a poorer outcome and higher failure rate in obese patients. However, whilst a number of studies show an adverse effect of obesity on TKR outcome, other studies have indicated no difference between obese and non-obese patients. This paper reviews various studies assessing the possible link between bodyweight and TKR outcome and suggests some simple measures that can be undertaken prior to and after the operation to possibly reduce the adverse effect obesity might have on a TKR's short and long-term outcome.

O-127

Biomechanical analysis of lumbar spine implants

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Introduction: Conservative approach versus surgery is an ongoing discussion for the treatment of vertebral fractures and better understanding of biomechanics in both cases is required. This requires the knowledge of the fracture implant properties that influence the success of the treatment with respect to stability as well as to the bone remodelling process. The mechanical properties of spinal implants are very difficult to obtain either 'in vivo' or 'in vitro'. Computer simulation is forming a very important tool in biomechanics since it can simulate the behavior of the spine in situations where other methods fail. The point in case is the implant - bone interface.

Method: The computer simulation by means of Finite Element Analysis investigates the behaviour of implanted spinal systems consisting of pedicle screw / nut / locking sleeve and rod construct. The vertebra is modelled assuming isotropic properties of both cortical and cancellous bone while the space between L2 and L4 vertebra is filled with cement. Three contact pairs between screw, nut and sleeve were modelled using CONTA174 and TARGE170 elements. Applied internal loads in passive ligamentous spine for neutral standing with 0N load in hands consisted of axial compression, shear force, and sagittal moment. The static non-linear solution was computed by means of PCG equation solver using full Newton-Raphson solution procedure with force convergence control set to 0.002 tolerances.

Results: The screw is undergoing bending as expected and the bone-implant interface exhibits the variation of stress/strain along the length of the screw. Further investigation will be required at these locations.

O-128

A profile of genetic diseases in Malta

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Genetic diseases are important causes of morbidity, but their frequency and significance in clinical practice are not adequately appreciated. Epidemiological studies on genetic disorders in Malta are very limited. This paper is an overview of genetic disorders in Malta, diagnosed over a period of twenty years in individuals attending the genetics clinic at St Luke's Hospital from 1985 to 2006. It assesses the magnitude of the problem of genetic diseases and provides a profile of their pattern of distribution in Malta. The various disorders were classified as chromosomal, monogenic, polygenic, teratogenic, and syndromic. This study evaluates the importance of the genetics services being provided, the reasons for referrals, the types of services requested, and the outcomes in terms of results, benefits and limitations of the service. It allows us to determine the types and profiles of individuals who are referred to the genetic clinic, the benefits they derive from it and the limitations experienced. It analyses also the impact and importance of the genetic diagnostic and counseling service on community health, the changing trends in genetic diagnostic technology, the counseling services provided, and the future possibilities and needs for further expansion of services.

O-129

Linkage to a region on chromosome 11p12 in two Maltese families with severe osteoporosis

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Aims: Osteoporosis is a metabolic bone disease with a strong genetic component. A family based linkage study was performed for the possible identification of chromosomal loci that might contain genes responsible for an increased susceptibility for osteoporosis in the Maltese population.

Methods: A whole genome linkage scan using 400 microsatellite markers

was performed on 27 members from two Maltese families with a highly penetrant form of osteoporosis. The phenotype was defined by lumbar and femoral z-scores calculated after measurement of bone mineral density (BMD) by DEXA. Both males and females were among the affected individuals. Multipoint parametric and non-parametric linkage analyses were performed by EasyLinkage v4.0 using GENEHUNTER v2.1, assuming dominant and recessive modes of inheritance with variable penetrance.

Results: Evidence of linkage was observed to a marker at 11p12 where a non-parametric LOD score (NPL) of 4.99 was obtained. A maximum heterogeneity LOD (HLOD) score of 2.74 ($p=0.0091$) for this region was obtained for the dominant mode of inheritance with 90% penetrance and a phenocopy rate of 1%. When performing fine mapping at this region both the NPL and HLOD scores increased to 7.00 and 3.32, respectively. Direct sequencing of the coding and promoter regions of the TRAF6 gene located within this region revealed a number of sequence variants that are being further investigated.

Conclusions: These results suggest that a major gene responsible for osteoporosis might be present in region 11p12. Identification of such genes is important for the early identification of individuals at risk and for the development of effective treatments.

O-130

Translation of IGBP-1 mRNA contributes to the regulation of expansion and differentiation of erythroid progenitors

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Erythroid progenitors can be expanded in vitro in the presence of erythropoietin (Epo) and stem cell factor (SCF), while they differentiate to enucleated erythrocytes in presence of Epo only. Our study aims to identify (i) signaling pathways that control expansion of erythroid progenitors and (ii) genes regulated by these signaling pathways. SCF strongly activates phosphatidylinositol 3 kinase (PI3K). SCF induced delay of differentiation can be released by inhibiting PI3K. An important PI3K-dependent process in cell fate is regulation of mRNA translation. PI3K controls the activity of mTOR (mammalian target of rapamycin), resulting in phosphorylation of eIF4E (eukaryote Initiation Factor 4E)-binding protein (4E-BP). Fully phosphorylated 4E-BP releases eIF4E, which can subsequently bind eIF4G, forming the eIF4F cap-binding complex. Translation of mRNAs with a structured UTR (untranslated region) require optimal availability of eIF4E. SCF, but not Epo can induce full phosphorylation of 4E-BP and efficient formation of the eIF4F complex. Overexpression of eIF4E inhibited erythroid differentiation, indicating that SCF-induced eIF4F activity contributes to progenitor expansion. A major step in mRNA translation controlled by eIF4F is polysome recruitment. To identify genes whose expression is regulated by signaling-induced polysome recruitment, we compared total and polysome-bound mRNA from factor deprived and Epo plus SCF restimulated progenitors using micro-arrays. Polysome recruitment of 13/15 targets is dependent on PI3K activation and eIF4E expression. Constitutive expression of these targets in erythroid progenitors revealed that IGBP1 (Immunoglobulin binding protein 1) was able to inhibit erythroid differentiation. Constitutive IGBP1 expression maintains phosphorylation of 4E-BP in differentiation conditions, possibly contributing to inhibition of erythroid progenitor differentiation.

O-131

Haemoglobin F Malta I: Interactions in vivo that regulate gamma to beta globin gene switching

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The biochemical mechanisms of globin gene switching remain elusive

however considerable insight is gained by in vivo expression profiling in the context of specific regulatory DNA sequence diversity. The quantification of normal and abnormal globins of HbF-Malta-I (or alpha2Ggamma2, 117(G19)His>Arg) heterozygotes which are in tight linkage disequilibrium with Hb Valletta (or alpha2beta2 287(F3)Thr>Pro), together with haplotyping of homozygotes and heterozygotes including the Xmn-I dimorphism in the Ggamma promoter and the (AT)xTy polymorphism 5' to the Beta globin genes had suggested that the Xmn-I dimorphism was largely inactive in the normal newborn whilst the HbF levels and the proportion of Ggamma globin in anemic adult beta-thalassemia homozygotes and compound heterozygotes differed significantly. Here, we document the occurrence of seven newborns who were heterozygous at three globin loci permitting quantification by RP-HPLC of the six globin products in the context of genotypic variation at the Xmn-I and (AT)xTy sequences. Results were compared with newborn HbF-Malta-I-Hb-Valletta heterozygotes and anemic adult beta thalassemia homozygotes/compound heterozygotes. The globin quantification together with haplotype data were analysed using the general linear model by SPSS version 12. The data excluded significant effect of the Xmn-I dimorphism alone on relative Gamma/Beta globin gene expression in the newborn. Conversely, the (AT)xTy with BP1 binding sites of 19 (AT)7T5, 21 (AT)7T7, 23 (AT)9T5, or 25 (AT)11T3, nucleotides in trans over-ride Xmn-I. In contrast, it is the Xmn-I dimorphism that over-rides the (AT)xTy diversity in the anemic adult beta thalassemia homozygotes or compound heterozygotes. The GgammaFMalta-I/GgammaO ratio of the newborn heterozygotes with Hb F Malta-I and the AgammaT/AgammaI ratio of the newborn heterozygotes with HbF-Malta-I and HbF-Sardinia suggested that the developmental regulation of the Xmn-I site may be subject to cis/trans interplay with the (AT)xTy sequences.

O-132

An update of beta-thalassaemia carrier screening in Malta

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Background: Beta-thalassaemia is the most common single gene disorder in the Maltese population with a carrier rate of 1.8%. A national screening program was initiated by the Health Department in 1991 with the goal of identifying couples at risk and providing the necessary medical management and counseling. This study is an appraisal of the results achieved after a 15-year period.

Procedure: Data of the total number of subjects tested for beta-thalassaemia was collected. It included haematological data of antenatal mothers and their partners (when required), as well as DNA mutational sequence analysis reports of newborns which were identified at risk of being affected by beta-thalassaemia through the antenatal screening process.

Results: On a yearly basis an average of 3852 antenatal mothers were screened for beta-thalassaemia. Of these an annual average of 78 mothers were found to be consistent with beta-thalassaemia trait. After testing the partners of these cases, 1-2 couples annually were found to be at risk of having a child with beta-thalassaemia. These were counseled in view of their 25% chance of having an affected child. During the past fifteen years three new cases of beta-thalassaemia were identified through antenatal screening.

Conclusion: Results show that prenatal diagnosis has been successful in identifying the majority of Maltese families at risk of beta-thalassaemia and the thalassaemia birth incidence has decreased considerably. This approach may represent a model for other comprehensive screening programs for significant genetic disorders such as familial Mediterranean fever and Phenylketonuria. However, education programs for the affected families and the general public are much needed.