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ABSTRACTS

UNIVERSITY OF MALTA
MEDICAL SCHOOL

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CHEMOTHERAPY IN THE CONTROL OF TROPICAL DISEASE

H. M. Gilles

The discovery of effective drugs that can be given orally, in a single dose, possessing minimal side effects and relatively cheap has revolutionised our concepts of the "community control" of some of the common tropical diseases. When mass chemotherapy is not feasible; selective population chemotherapy (SPC) or targetted chemotherapy (TC) can effectively reduce morbidity and mortality.

Two drugs will be chosen to illustrate the point

a) Praziquantel and

b) Ivermectin.

Praziquantel is effective against all species of schistosomes; flukes and taeniasis as well as other helminthic infections. Ivermectin is now the drug of choice for onchocerchiasis. The use of these two drugs in the "community control" of the above diseases will be discussed.

POSTMENOPAUSAL BONE LOSS: PREVENTION AND REPLACEMENT

M. Brincat

Osteoporosis is a skeletal disorder predominantly affecting women. Following the menopause there is an acceleration in the rate of bone loss such that, by the age of 79 years a woman loses 50% of her bone mass while a man loses only 25% by the age of 90. It is estimated that by the age of 65 some 40% of women would have experienced at least one osteoporotic fracture. This is due to a decline in bone organic matrix, the primary pathological event leading to osteoporosis.

A number of prospective studies have confirmed that oestrogen can prevent post-menopausal osteoporosis. Simply preventing a further deterioration in bone loss might not be sufficient to prevent osteoporotic fractures. Oestrogen treatment on its own will only reduce the risk of osteoporotic fractures by 50%.

Calcitonin like oestrogen has been shown to prevent postmenopausal bone loss.

To date only limited work has been done to increase bone mass in early postmenopausal bone loss. Four groups of women were studied. One group was given Premarin alone, one group was given Calcitonin alone, one group was given a combination of Premarin and Calcitonin and one served as a control group.

The data from women who completed 12 months of treatment (a) confirms that vertebral bone mass is lost rapidly in the initial postmenopausal years, (b) confirms that this loss can be prevented by either oestrogen alone or Calcitonin alone, and (c) indicates that Oestrogens (Premarin) and Elcatonin (Carbocalcitonin) combined in adequate doses, not only prevents early postmenopausal bone loss but results in a significant gain. In our study the mean gain was 11.2% after one year.

B.C.G. IN THE TREATMENT OF BLADDER CARCINOMA

A. Busuttil

Urothelial carcinoma in situ (CIS) of the urinary bladder carries a high risk of progression and muscular invasion, and a consequently poor prognosis. Conventional methods of anti-cancer treatment often fail to make any satisfactory impact on its prognosis. In a number of centres, the intravesical installation of Bacille Calmette Guerin (B.C.G.) suspensions, first introduced in 1976, was confirmed to produce a satisfactory response with an occasional complete remission, in both transitional CIS and in diffuse superficial transitional carcinoma of the bladder which has escaped more conventional forms of therapy. Eighteen such patients were treated with 8 weekly bladder instillations of (Evans) B C G with a response rate of 94% at three months and 57% at two years.

The mechanisms by which B C G produces its anti-tumour effect were assessed in these patients by immunohistochemical studies on cryostat sections from bladder biopsies taken serially before, during and after the completion of this course of therapy. A strong level of expression of H L A - DR antigens was exhibited by the cells of the urothelium and these changes persisted for a few months post-therapy. In addition to florid granulomatous changes, a diffuse mononuclear 'inflammatory' cellular infiltrate accompanied this. To a large extent this was composed of activated helper T - lymphocytes. A smaller number of B cells, macrophages and suppressor cytotoxic T lymphoytes were also identified. BCG appears to enhance tumour surface antigenic expression by the urothelium, and the recognition and response to these antigens by local and recruited immuno-competent cells.

OSSEOINTEGRATION IN CLINICAL DENTISTRY

G. A. Zarb

The restoration of missing body parts reflects a long, if not always, distinguished history of professional innovation and patient hope. The dental profession in particular has played a very significant role in this endeavour by restoring and replacing depleted dentitions by means of a variety of materials and techniques. Fixed or removable prostheses have proven to be ingenious forms of intraoral salvage and have benefited innumerable individuals around the world.

However acceptance of such prosthetic replacments has not been total, nor always predictable. The dental literature and clinical experience both attest to the harsh predicament of those for whom dental prostheses such as complete dentures are an assault upon their psychic well-being and/or their ability to function adequately. For these unfortunate individuals, while the dental profession was well equipped with technological knowhow for dental replacement ability to produce analogues for the missing roots to retain the artificial teeth was not available.

At least not until the 1970's when Per-Ingvar Branemark and his colleagues from the University of Gothenburg produced basic and clinical evidence to indicate that the long awaited breakthrough in prosthetic dentistry had been achieved. This seminal work provided irrefutable evidence of the feasibility of producing artificial tooth root analogs for edentulous jaws and eliciting the predictable and long-lasting response of osseointegration. This brief presentation will seek to reconcile published research information on the efficacy of osseointegration as applied to numerous dental therapeutic challenges.

CHOLEDOCHOLITHIASIS: WHITHER SURGERY

G. Laferla

Choledocholithiasis is a common condition. It has been estimated that as many as 24% of patients with cholelithiasis have stones in the common bile duct (CBD). Indeed where the gallstones are symptomatic, the prevalence of choledocholithiasis was 6% in the younger patients rising to 33% in the 80 age group (Glenn and McSherry 1975).

Typically stones in the CBD may be encountered pre-operatively (op) in patients with jaundice, "Alk. Phos. or pancreatitis; per-op during cholecystectomy; or post-op as "retained stone" or as primary duct or recurrent stones many years after cholecystectomy. Untreated up to 55% of patients develop complications directly related to CBD stones.

Surgery (exploration of the CBD) is the most effective treatment. Complete clearance of the duct may be obtained in up to 99% of patients particularly when exploration is coupled with per-op radiology or choledochoscopy. It may however lead to considerable morbidity (around 15%). The mortality rate quoted by Grundy et al (1984), especially in complicated cases, is 12% in younger patients and 20-43% in the older age group. Clearly these results suggest that surgery is not always appropriate.

Endoscopic sphinterotomy is an alternative safe procedure. Successful stone extraction is 85% with a 5-8% complication rate and a 1% mortality rate. When a T-tube has been left in situ following surgery, clearance of the CBD by the Burhenne method is successful in 58-90% of cases.

The single most common reason for failure of stone extraction is stone size. In this situation stone dissolution may be employed. Access is obtained via a T-tube or a naso-biliary drain (NBD). The success rate of dissolution with agents commonly used is only modest (50%) and side effects are common (Hoffmann and Palmer 1986). More recently, methyl tert-butyl ether administered via a NBD has been reported with a success rate of 80% and minimal morbidity (Murray and Laferla 1988).

CHOLEDOCHOLITHIASIS: WHITHER SURGERY Cont'd

G. Laferla

Of the physical methods now available, mechanical lithotripsy (LT) is easily available but is cumbersome and results are unpredictable. Ultrasonic and laser LT are still in their infancy. Extracorporal LT is currently being assessed but the indications and limitations are not yet clear and the devices are not widely available.

Management of CBD stones must be based on local expertise and facilities. Any procedure that avoids an operation may not always be wise. Indeed an operation may be the simplest and safest cure.

MANAGEMENT OF UPPER URINARY TRACT CALCULI - FROM SCALPEL TO LASER

C. L. Cutajar

With the introduction of minimally invasive endoscopic techniques and non-invasive lithotripsy the management of urinary tract calculi has undergone a radical change in the last decade. In order to assess the effect which these new techniques have had on treatment policy in the Urology department in Malta, a retrospective study, comprising 150 consecutive upper urinary tract calculi requiring active intervention, is presented and the results analysed. These comprise the first 100 renal stones treated by percutaneous nephrolithotripsy, 20 cases of staghorn calculi, and 30 cases of ureteric stones at various levels. Surgical intervention was necessary in only 2% of simple renal calculi, 15% of staghorn calculi and 25% of ureteric stones.

MARLEX MESH REPAIR OF ABDOMINAL WALL DEFECTS

C. Swain

Introduction

Considerable difficulties are often encountered in attempting to repair extensive abdominal wall defects and recurrent hernia using local fascia and muscle. Marlex mesh can be used to bridge large defects in a simple but sound fashion.

Twenty patients who underwent marlex mesh repair of abdominal hernias at least five years previously are reviewed and relevant aspects of surgical techniques are described.

Conclusion

Marlex mesh repair of abdominal wall defects provided a simple solution to an otherwise difficult surgical problem. The incidence of recurrence or sepsis in this series of twenty patients followed up for a minium of five years is acceptably low.

LAPAROSCOPIC CHOLECYSTECTOMY: THE WAY AHEAD FOR SYMPTOMATIC GALLSTONE DISEASE

A. Cuschieri, (Dundee)

With the well known prevalence of gall stones, with or without symptoms, the incidence of operations required to deal with them and the associated mortality and morbidity, simpler procedures for dealing with these problems merit consideration.

Extracorporeal shock wave lithotripsy has already revealed predictable limitations, and ablation of the gall bladder remains the standard procedure. Laparoscopic ablation as against open cholecystectomy offers advantages of a minimal "wound" with avoidance of serious wound complications and a rapid recovery.

In acute cholecystitis, the treatment of choice remains elective open cholecystectomy but the appreciable mortality can be significantly reduced by simpler drainage procedures like laparoscopic guided tube drainage.

For cold gall bladder ablation, laparoscopy is feasible and recommendable. The instrumentation and the technique of laparoscopic cholecystectomy with cholangiography are described. The clinical experience with over 200 patients to date is very promising, with much reduced postoperative pain, no ileus, no wound healing problems and practically no other morbidity, involving a 48 hour hospital stay and a 7-10 day limitation to full activity.

The current indication is symptomatic gall stone disease in a functioning gall bladder without acute complications, and has been found applicable to all but 8-10% of patients. The indications may possibly extend to the non-functioning gall bladder, with due laparoscopic ascertainment of such prohibitive features as obscure anatomy etc. Ductal calculi can be subsequently dealt with by endoscopic sphincterotomy.

HEREDITARY SKELETAL DYSPLASIAS

A. Cuschieri (Malta)

Skeletal dysplasias are developmental disorders of skeletal growth affecting bone and cartilage (osteochondrodysplasias). They are possible causes of short stature in children and some are evident at birth. They vary in severity and prognosis; some are lethal but most are compatible with life and normal intelligence. Most of them are monogenic showing simple Mendelian inheritance. The various types of skeletal dysplasia may present considerable difficulty in diagnosis and classification due to overlapping features but accurate diagnosis is essential for genetic counselling. It requires careful assessment of limb and trunk length ratios, extents of epiphyseal and metaphyseal involvement and associated vertebral anomalies as well as other clinical and biochemical features.

Autosomal dominant types, exemplified by achondroplasia and hypochondroplasia frequently arise as new mutations with no recurrence risks for the parents but 50% recurrence risk for affected individuals. Autososmal recessive forms, exemplified by some types of spondylo-epiphyseal dysplasia have 25% parental recurrence risk but negligible recurrence risks for the affected individual. Hypophosphataemic rickets and some types of spondylometaphyseal dysplasia are examples of X-linked dominant and X-linked recessive inheritance respectively.

Various lethal forms of short-limbed dwarfism such as hypophosphatasia, achondrogenesis and short limb-polydactyly syndromes may resemble achondroplasia but have to be carefully distinguished because of their vastly different modes of inheritance and recurrence risks.

Ultrasonography and foetoscopy are useful for prenatal diagnosis and in a few cases biochemical tests are available for carrier detection and early prenatal diagnosis.

SETTING UP A CHILD DEVELOPMENT CENTRE IN MALTA

B. Spiteri P. Vassallo Agius.

There is a need to set up a Child Development Centre and a handicap team in Malta. The main aim of this Child Development Centre will be to promote the optimal development of Maltese Children with special needs. The proposed centre will be based on existing expertise and practices in the U.K. The Child Development Centre will ideally be part of our Hospital complex and link hospital and community child health services. This paper reviews some relevant literature regarding Child Development Centres in the U.K. and proposes some clear objectives and guidelines for setting up our Child Development Centre in Malta.

NEONATAL INTENSIVE CARE AND ITS APPLICATION IN MALTA

D. Azzopardi,

In recent years there has been a remarkable improvement in the outcome of sick newborn infants. In the UK the mortality for infants with birth weight 500 - 1500 grams has fallen from 70% in 1960 to 40% and this trend has been reported in other developed countries. This improved outlook is attributed largely to the introduction of neonatal intensive care. This report describes some neonatal intensive care techniques and their application on the SCBU in Malta. The outcome for infants admitted to the SCBU is reported and finally new techniques becoming available are described.

THE SURGICAL MANAGEMENT OF TESTICULAR UNDESCENT

A. Bianchi

The incidence of Testicular Undescent in the full term baby at birth is around 2-4%, dropping to 0.8-1.3% by the sixth month of life (Jackson et al 1986). Recent evidence (Hadziselimovic 1987) suggests that most undescended testes are normal at birth, but show rapid deterioration with loss of spermatogonia if retained at a higher environmental temperature outside the scrotum.

Orchidopexy before the end of the second year of life is now the recommended form of management.

The Operation of Orchidopexy varies in complexity depending on the position of the testis and the length of its vascular pedicle. This paper outlines the surgical management of testicular undescent and describes the surgical technique of Orchidopexy, from the Scrotal Orchidopexy for the Palpable Testis to Microvascular Orchidopexy for the high inguinal and intra-abdominal testis on a short vascular pedicle.

SICK SINUS SYNDROME

J. V. De Giovanni

The Sick Sinus Syndrome is a clinical presentation of sinus node dysfunction combining extreme bradycardia due to asystole with supraventricular tachyarrhythmias. Although very rarely fatal, it is often responsible for unpleasant symptoms and morbidity. Around 6 per 10,000 population suffer from sinus node dysfunction.

Sinus node dysfunction may be apparent on a standard electrocardiogram but, occasionally, other investigations are required. These include electrocardiographic response to physiological manoeuvres including exercise, holter monitoring and transtelephonic electrocardiography. Electrophysiological studies have a limited role in the actual diagnosis except in a few circumstances; electrophysiology, however, plays a useful role in assessing the integrity of AV node function (which is essential in deciding the form of pacing) and also to evaluate the properties of the supraventricular tachyarrhythmias including response to overdrive pacing.

It is essential to exclude extra cardiac vagal causes of apparent sinus node dysfunction including Carotid Sinus Syndrome (C.S.S.) which is concomitantly present in around 12% of patients with Sick Sinus Syndrome. Up to 40% of patients with Sick Sinus Syndrome may have concomitant AV node disease which precludes the use of isolated atrial pacing.

An active approach to the management of Sick Sinus Syndrome is indicated. The tachyarrhythmias are almost always completely abolished by atrial pacing which is superior to ventricular pacing provided AV node function is satisfactory.

Information regarding the properties of the supraventricular tachyarrhythmia is useful in determining the choice of pacemaker used. If electrophysiological studies show that overdrive pacing reverts the tachyarrhythmia, the generator should have this facility. Rate responsive units are, nowadays, prepared to simple demand pacemakers. The lead characteristics are important considerations. Occasionally, a combined approach including pacing and anti-arrhythmic drugs is required.

INTERVENTIONAL CARDIOLOGY

A. Fenech

Recent years have seen the development of newer pharmacological approaches to a variety of cardiovascular problems as well as a fresh reappraisal of the role of established drugs in the treatment of myocardial infarction. Concomitant with these, the era of "interventional cardiology" has been launched by the invention and application of a variety of techniques aimed at treating various electrical, valvular and ischaemic cardiac problems.

Improvements in electro-physiological testing have allowed a better understanding of the electrical abnormalities of the myocardium and its conducting system. This has led to the emergence of 'physiological' and anti-tachycardia pacemakers as well as implantable defibrillators.

Valvular heart disease, in particular mitral stenosis, has now become amenable to percutaneous treatment by valvuloplasty with promising long term results. This approach has also allowed certain congenital abnormalities to be treated effectively without the need for surgery.

The most dramatic results have been seen in the treatment of coronary atherosclerosis by a variety of techniques, in particular PTCA. This technique has reduced the need for conventional bypass surgery, as well as increased the number of patients suitable for coronary revascularisation. The biggest drawback with this technique at present is the high restenosis rate as well as the poor results encountered with complete chronic coronary occlusions. A number of other techniques and appliances are currently being evaluated in an attempt to improve on these results.

A COMPARISON OF STREPTOKINASE AND TISSUE PLASMINOGEN ACTIVATOR IN ACUTE MYOCARDIAL INFARCTION

J. Muscat Baron.

Abstract not received.

COMPARISON BETWEEN STREPTOKINASE & TISSUE PLASMINOGEN ACTIVATOR IN ACUTE MYOCARDIAL INFARCTION

J.M. MUSCAT BARON

Thrombolytic therapy together with Aspirin has been shown to improve the acute mortality and survival in acute myocardial infarction. Tissue plasminogen activator (TPA) has been claimed to have a superior effect than streptokinase (SK). In view of the large cost differential between these two agents, it was decided to compare their effects in a consecutive group of patients.

Between December, 1988 and July, 1989 one hundred patients were randomly allocated to receive SK (49 males and one female) or TPA (49 males, one female) together with Aspirin. The average age was comparable (SK 47.5 and TPA 46.5) as was the time between the onset of pain and the start of therapy (SK 2.3, TPA 2.2 hours).

The results were assessed by the use of stress testing before discharge from hospital and by carrying out coronary angiography 4-8 weeks after the attack of myocardial infarction.

Both agents given in addition to Aspirin proved to be equally effective in reducing in hospital mortality and subsequent investigations showed no significant difference in exercise tolerance or in angiographic findings. There was however a significant 3 month mortality in favour of T.P.A.

A NATIONWIDE HEART DISEASE RISK FACTOR SURVEY: DESIGN AND METHODS

J. M. Cacciottolo J.J. Mamo M. Ellul

The WHO MONICA Project is a major international collaborative study coordinated from WHO Headquarters, Geneva. The aim is to monitor trends and determinants in cardiovascular disease, and the extent to which such trends are related to changes in known risk factors, living habits, health care and major socioeconomic features.

The Malta MONICA Centre (no 52) has a proven track record with regard to population surveys, having also successfully conducted a baseline survey involving a random cross-section of 1.8% of the Maltese population between the ages of 25 and 64 years. Among the valuable data that this survey has produced were prevalence rates for such risk factors for cardiovascular disease as hypertension, smoking, hypercholesterolaemia, overweight and physical inactivity. Important correlations were also documented, such as the higher prevalence of major risk factors among socially disadvantaged persons.

It is proposed to repeat the survey in 1990 using the same standardised methods but among a new cross-section of the Maltese population. The null hypothesis for the survey is that there is no difference in cardiovascular disease risk profile between that documented in the baseline survey and the proposed midpoint survey, six years later.

The study population will be randomly chosen from the October 1989 electoral register as the sampling frame. The tools of measurement will be a comprehensive questionnaire, measurement of height, weight, pulse rate and blood pressures, and estimation of total and HDL cholesterol and serum thiocyanate.

CARDIOVASCULAR DISEASE: SCREENING AND PRESENTATION

A. Borg

Malta and the United Kingdom share the dubious distinction of being among the three countries with the highest mortality rate from cardiovascular disease in Europe, other countries in the Mediterranean Basin have much lower rates.

A major cause of this is thought to be diet; Maltese and British people eat too much saturated fat, salt and refined carbohydrate and too little fibre, resulting, in Britain, in an average adult serum total cholesterol level of 6.2mmol/l, well above the recommended 'safe' level of 5.2mmol/l.

In Britain, it is accepted that a long term alteration of population dietary lifestyle is necessary; in the short term, there is much controversy over the relative merit of mass unselective screening of people at risk, to reduce the prevalence of cardiovascular disease.

We report on the preliminary results of a GP based mass screening programme in the town of Cirencester (population 16,000), which suggest that, given sufficient opportunity and information, people are willing to be screened and to alter their lifestyle to reduce their level of risk of suffering from cardiovascular disease.

RESTORATIVE PROCTOCOLECTOMY with ILEAL POUCH RESERVOIR in ULCERATIVE COLITIS in MALTA.

D. Gatt

Restorative proctocolectomy with ileal pouch reservoir is undoubtedly the operation of the future for patients with complicated ulcerative colitis, ulcerative colitis that fails to respond to medical treatment and in patients with Familial Polyposis Coli. The operation involves the removal of the colon down to mid-rectum, the removal of the mucosa of the lower half of the rectum down to Hilton's line preserving the muscle tube of the rectum and all the anal sphincters, the fashioning of a pouch reservoir from the terminal ileum and the anastomosis of this pouch inside the rectal muscle tube to the anal mucosa at Hilton's line.

5 female patients ages 13-44 underwent this operation since May 1988. The indications and procedure are discussed. Today all patients are capable of distinguishing between flatus and faeces, have a bowel action frequency of 1 to 4 times daily and faecal consistency ranging from normal formed to soft.

Besides the fact that all the patients in this series are leading a normal active life without a permanent ileostomy, one patient since her operation has taken up tennis and the 13 year old, manages school without any significant bowel disturbance.

'THE EYE & THE NEEDLE'

J.A. Coleiro

A new approach to cataract surgery has been adopted in recent years. There has been a shift to extracapsular techniques, with the retention of the lens capsule for improved fixation of intraocular lenses. Lens implantation is now the rule for patients undergoing cataract surgery; this has been made possible by the introduction of viscoelastic materials of high molecular weight, predominantly sodium hyaluronate.

While PMMA remains the primary material in the manufacture of lens implants, newer hydrophilic foldable materials are also in use with very small incisions. Multifocal intraocular lenses have just emerged. Lens implants constitute a foreign body within the eye which may excite intraocular inflammation. A milder cellular reaction and fewer pigment deposits are observed when the implant surface is modified by heparin.

Direct microsurgery within the vitreous cavity permits the evacuation of longstanding haemorrhage particularly in diabetics, extraction of retained foreign bodies and peeling of fibrous membranes on the retinal surface.

Refractive surgery, particularly radial keratotomy for myopia, has received widespread publicity; the visual results are largely unpredictable.

The Neodymium - YAG Laser is particularly useful for clearing the pupillary zone of opaque lens capsule. An iridotomy can be achieved in angle closure glaucoma as an outpatient procedure, sparing the patient a surgical opening.

LOCAL RESECTION OF INTRAOCULAR UVEAL MELANOMA

B. DAMATO

Uveal melanoma is the commonest, primary intraocular melanoma in adults and despite enucleation has a mortality of about 50%. The aim of local surgical resection is to excise the tumour in the hope of preventing metastatic disease whilst preserving a functional eye.

To date, almost 300 patients have been treated by local surgical resection at the Tennent Institute of Ophthalmology. The results show that it is possible to save the eye in approximately 75% of all cases, with useful vision in about 50-60% of eyes. The survival of these patients is the same as those treated by enucleation.

PREVALENCE STUDY OF GLAUCOMA IN THE MALTESE POPULATION.

J. M. Cachia

A population based survey of persons aged 40 years and above was carried out in the Maltese Islands between April and June 1989. A randomly selected sample of 2245 participants were examined. 3.3% were found to have glaucoma and a further 1.0% had increased intra-ocular pressure and were considered to be suspicious cases. Half of the cases of glaucoma were new cases. An analysis of risk factors for glaucoma showed a positive association with increasing age, a personal history of diabetes mellitus, and a family history of glaucoma. Hypertension and myopia were not found to be risk factors in this study. The efficacy of non-contact tonometry as a tool for mass screening for glaucoma was also assessed as was the prevalence of other common ophthalmic problems. The implications of the survey findings on the introduction of a screening programme for glaucoma in the Maltese Islands will be discussed, with particular attention being given to the consequences of such screening programme on the present and future set-up of Ophthalmic Health Services at all levels of care.

A TEST OF VISUAL FIELD SCREENING

B. DAMATO

Abstract not received

ANTIBODIES, BLOOD CLOTS AND BABIES

C. Mallia

Several antibodies to nuclear and other antigens are found in the sera of patients with a variety of rheumatic diseases. The availability of sensitive diagnostic tests has led to a clearer definition of several clinical features that were previously thought to be unrelated. Attempts have been made to associate specific antibodies with various clinical subsets. One such group of antibodies, the antiphospholipid or anticardiolipin antibodies, has been generating considerable interest. Though initially studied in patients with systemic lupus erythematosus, these antibodies have also been found in patients without any clinical or serological evidence of connective tissue diseases. The major clinical correlations have been with vascular thrombosis, recurrent foetal loss and thrombocytopenia. This paper outlines some historical aspects relating to these antibodies, as well as their laboratory and clinical associations, together with illustrative case reports.

DRUG INDUCED PEMPHIGUS
Dermatological Curiosity or Essential Knowledge for the Practising Physician?

J. L. Pace

The little known entity of drug induced pemphigus is discussed together with the possible operative mechanisms. A current review of the condition in made emphasizing that this is not a rarity limited to the now little used penicillamine, but that cases have occurred following other often used medications especially captopril perhaps one of the most widely used drugs in modern cardiological practice.

MULTIMODALITY MANAGEMENT OF SOFT TISSUE SARCOMAS: A BRIEF REVIEW OF OUR EXPERIENCE 1988-1989

S. Brincat

The incidence of soft tissue sarcoma in the U.K. and U.S. is 0.5 to 0.8 per 100.000. In Malta this would mean an incidence of 2 to 3 cases a year. Over the past 20 months we have seen 15 new cases and treated several others diagnosed before 1988. The cause for the higher incidence is not known. Our experience will be reviewed.

THE FASCINATING SAGA OF KURU AND THE INCREASING IMPORTANCE OF ITS IMPLICATIONS IN MODERN MEDICINE

L. A. Vassallo.

The fascinating saga of years of research work into the cause of Kuru is described. Special emphasis is laid on the importance of the personal qualities of initiative, perseverance imagination, and the successful overcome of obstacles which typifies most major research work and important discoveries throughout the History of Medicine - however, esoteric, or however unimportant the field of research work may appear to be at the time. The work in this field led to a Nobel Prize in Medicine.

The increasing importance of the implications uncovered by the original research work on Kuru is discussed by the author, as one of the more important growing points in modern medicine.

The importance of the concept of prions is stressed, the interesting medical implications of the geographic proximity of Libya to Malta are noted.

DESTRUCTION OF PLAGUE INFECTED SHIPS BY BURNING AS A SANITARY MEASURE IN 18TH CENTURY IN MALTA

P. Cassar

Woven throughout the medical history of Malta is the constant preoccupation about the possibility of an invasion by ship-borne epidemics of plague from the time of the Black Death in 1348 to the last major outbreak in 1813.

The measures adopted by the Maltese health authorities to avert such a contingency during the time of the Order of St. John, were the setting up of a Lazzaretto where crews and passengers underwent a period of quarantine; the eviction of plague-infected ships from Maltese harbours; or, in very grave instances, the destruction of the ship with its cargo by burning it to ensure the complete eradication of the "contagion" of plague.

This paper deals with three such episodes - involving a Maltese corsairing galleon and two Venetian merchantmen - that occurred between 1781 and 1784.

The manner in which the burning was carried out and the administrative procedures that led to it - involving even the intervention of the Grand Master of the Order - are described; as well as the serious political repercussions between Malta, Venice and Tunis that resulted from the destruction of one of the Venetian ships and that finally erupted in armed conflict between Venice and Tunis.

These events are considered in the context of the medical and epidemiological knowledge of the 18th century with special reference to the maritime health of the Mediterranean littoral at the time.

The attitude of the Order of St. John in justifying the burning of plague ships to safeguard Maltese health interests is discussed.

GLUCOCORTICOSTEROIDS IN BRONCHIAL ASTHMA

A Brief overview of their actions and uses.

R. Ellul-Micallef.

Ever since the introduction of these drugs in the therapy of bronchial asthma almost 40 years ago there has been no lack of controversy as to the actual indications of their use, the dose required to control severe asthma, their mode of action and the site or sites at which they are supposed to act.

The role of these drugs in the treatment of both the acute and chronic forms of bronchial asthma is now firmly established. Clinical pharmacological evidence of the physiological changes induced was first presented in 1972. A better understanding of the pharmacokinetics and pharmacodynamics of glucocorticosteriods has led to their more judicious use in the relief of airflow obstruction. The successful introduction of compounds with high topical activity and low systemic effects delivered by inhalation has meant the earlier and safer use of these drugs in the management of asthma. The introduction of inhalers delivering high doses of glucocorticosteroids while of undoubted benefit in certain asthma subgroups also raise greater risks of undesired systemic effects.

Reasearch work into the structure of the glucocorticosteroid receptor and the unravelling of the action of these agents at a cellular level has now explained the reason for the time lag that is seen clinically between the time of their administration and the onset at which their effects are detectable.

It is now generally accepted that glucocorticosteroids exert their beneficial actions by reducing airway inflammation and, when inhaled, by decreasing airway hyperresponsiveness. In spite of their undoubted benefit it is disturbing to learn that in bronchial asthma, they still continue to be "underprescribed, underused and underdosed".

CURRENT TRENDS IN OCCUPATIONAL ASTHMA

R. Agius

Estimates of the prevalence of occupational asthma are very variable but range up to 15% of male cases of asthma. The number of suspected causative factors is approaching 500. In some industries with uncontrolled exposures it has been shown that more than half the workforce have developed symptoms of occupational asthma.

Current studies in occupational asthma are changing trends in the understanding, prevention and management of the disease.

Large molecular weight substances tend to cause extrinsic asthma by Type I immunological mechanisms. Smaller molecular weight substances may act as haptens or cause asthma by non-allergic mechanisms. Striking similarities have been demonstrated between intrinsic/non-allergic asthma and occupational asthma caused by certain low molecular weight agents such as isocyanates and resin acids. Pilot studies of structure activity relationships suggest that for some causes of occupational asthma, common denominators of chemical structure exist, eg bifunctional basic or nucleophilic groups. These may have a direct non-immune effect on most cell activation.

An increasing number of therapeutic agents or their precursors are being identified as causes of asthma taking inhalation. These range from antibiotics to analgesics and bronchodilators. These findings may have clinical implications.

Studies of risk factors for occupational asthma suggest that atopy is associated with only some causes of occupational asthma and even in these circumstances atopy usually has a very poor predictive value.

Currently clinical and occupational studies are in progress to establish the quantitive relationship between exposure and the likelihood or severity of occupational asthma. Thus occupational exposure limits are now being derived and control measures applied so that in spite of the increasing number of hazards of occupational asthma, the risk of the disease will be kept to an acceptable minimum.

COMMUNITY ACQUIRED PNEUMONIA - WHAT IS NEW IN AETIOLOGY AND TREATMENT

F. F. Fenech S. Montfort

Community Acquired Pneumonia is still one of the most common conditions requiring hospital admission. This is still so despite the emergence of new antibiotics and improvement in care. Over the years, the pattern of the pneumonias have changed and new diseases and different pattern of old diseases have emerged. Some of these will be discussed and a therapeutic regime to be used at a community level will be suggested. Features of a new antibiotic of use in respiratory infection will also be discussed.

HARM REDUCTION AND AIDS PREVENTION IN DRUG ABUSERS IN MALTA.

M. Sciberras

In a study of over 400 i.v. drug abusers, who came in contact with treatment services in Malta, on repeated testing there were no positive HIV tests, and the infective hepatitis rate is 3%. This in spite of the fact that the countries surrounding Malta have some of the highest HIV positive rates in drug abusers, and the hepatitis rate is in the region of 7%.

This paper is intended to give a description of tests and strategies used to help maintain harm reduction in addicts. By the use of motivational interviewing and by constant and repeated suggestion to underline the risks inherent in the addicts' lifestyle, patients are made aware of the dangers they are in. This is one of the most effective ways of prevention.

SCHIZOPHRENIA - HOPE FROM EMERGING TECHNOLOGIES?

M. Orr

The impact of two emerging technologies (brain imaging and molecular genetics) on the understanding of schizophrenia, and the extent to which advances in the understanding of the disorder have been reflected in advances in treatment or an alteration in the prognosis are reviewed.

Treatment of schizophrenia still relies heavily on partly substantiated neurochemical hypotheses about the role of neurotransmitters in the genesis or expression of schizophrenic symptoms. These treatments have had little effect on the prognosis of the more severe types of schizophrenia. Brain imaging techniques and molecular genetics may however offer fresh insights into the nature and transmission of the disorder which could lead to advances in early recognition and prevention.

APPLICATIONS OF BIOSENSORS IN CLINICAL PRACTICE

J. V Bannister

Biosensors are novel systems comprising electrochemical, spectral and thermal transducers which may be coupled to a biological element. They are useful for monitoring blood gases, electrolytes, metabolites, proteins, enzymes, antibodies and antigens in clinical samples. The development of biosensors will enable measurements to be carried out closer to the patient.

Recent trends have been towards the development of amperometric biosensors. These sensors are well established for oxygen measurement where the Clark oxygen electrode hase been in use for over twenty five years. Enzyme-based amperometric biosensors are the most recent novelty. The enzymes involved are either flavoprotein oxidases or the nicotinamide dependent oxidoreductases and the current recorded due to the redox activity of the enzyme is a selective assay for its substrate. . These systems may, therefore, involve direct or indirect electron transfer between the electrode and the enzyme. However, direct electron transfer is not a very efficient process and promoters or mediators of electron transfer are currently being utilised. Experimental investigations have shown that by using mediated electron transfer it is possible to develop amperometric biosensors for a wide range of clinically useful enzymes. A marketable amperometric biosensor has been developed for glucose measurement using glucose oxidase and ferrocene as the mediator.

The combination of enzyme specificity for a given substrate and the sensitivity of electro-chemical devices has also in recent years been applied to the design of a number of elegant electrochemical immumoassays. Immunoassays are fundamentally simple and are based on the interaction of an analyte a ligand (Ag) with its specific partner an antibody (Ab) to form an antigen/antibody complex (AgAb). The predominant label in recent years has been the radioisotope, however, the growing trend away from radioactive labels has led to the development of enzyme linked immunoassays. Several heterogeneous enzyme immunoassays with and without chromatographic separation before electrochemical detection of the enzyme reaction have been devised. The strategy is based on labelling the antigen or antibody with an enzyme that catalyses the production of an electrochemically detectable product. The enzymes alkaline phosphatase and glucose oxidase have been successfully used for this purpose.

RADIOIMMUNOSCINTIGRAPHY IN DIAGNOSIS CANCER OF THE PANCREAS

A R Attard, D. Taylor, I. A. Fraser

Cancer of the pancreas can be difficult to diagnose. Ultrasound and C T scanning have improved evaluation of the pancreas but are non-specific. They often have to be combined with E.R.C.P. and/or percutaneous needle biopsy to provide a diagnosis, which are specialised techniques and are not always available. Furthermore it is well known that this disease is frequently fatal even after resection. Any method of earlier diagnosis may permit more successful treatment.

Advances in monoclonal antibody technology have opened up new frontiers in the specific diagnosis, monitoring and therapy of cancer. Radioimmunoscintigraphy, a technique where radiolabelled antibodies to tumour associated antigens are utilised to detect cancerous tissue by external imaging, has identified a variety of tumours. However, the deep position of the pancreas has discouraged its investigation by this technique. We have used 30 patients to assess the ability of immunoscintigraphy to image cancer of the pancreas. Fifteen were known to have pancreatic cancer and 15 were controls; CBD stones (8) and chronic pancreatitis (7). Imaging was carried out using an Iodine-131 labelled cocktail of monoclonal antibodies to CEA and Ca19/9. Serum CEA and CA19/9 levels were raised in most cancer patients as shown in the Table. Both planar and tomographic (SPECT) images were obtained and several methods of data processing assessed and compared. Results were assessed blind at completion of the study and marked as either positive, negative or equivocal. Planar images detected only one cancer. By contrast, tomography (SPECT) detected most with best results using the Weiner method of data filtration. This revealed 12/15 cancers (sensitivity 80%) with one false negative. There were 3 false positives in the control group (specificity 73%) and 11/15 true negatives. The positive predictive value of the technique was 85% and overall diagnostic accuracy of results was 77%.

Immunoscintigraphy can diagnose most cases of cancer of the pancreas provided tomography (SPECT) and sophisticated computer analyses are available. This technique shows promise and merits further investigation.

A TEST OF INTEGRATED POPULATION HEALTH SCREENING AND FOLLOW-UP SYSTEM IN DIABETES MELLITUS AND OTHER PREVALENT NCD.

J. Azzopardi A. Mazovetsky V. Olchanski Z. Junoussov F. F. Fenech

The report describes some results of testing the computer-supported expert system for the population health screening and follow-up in diabetes mellitus and other prevalent non-communicable diseases, "4U". System 4U for the pre-medical screening uses a questionnaire in computer dialogue of 20 minutes duration by the patient. Then the expert system evaluates health problems which are followed up through the database. System 4U was installed at the Diabetic Clinic of St. Luke's Hospital in Malta on one personal computer workstation. During the period of 10 months two groups of population have been screened and verified through the system follow-up procedure. The control group consisted of 320 people while the group of fresh diabetic patients was of 120 people. The age distributions in both groups were rather similar. The result of screening through the questionnaire yielded the diabetes risk group of 25% of the initial screenes in the control group. In the "sick" group 18% were missed by the questionnaire. It should be noted here that the classification rules in the system had been tuned to the population of Moscow, USSR. Having acquired the verified statistics we are presently adjusting these rules to better suit the Maltese population. The other types of NCD (tumour, heart, lungs, psychic), 4U also gave satisfactory results thus proving its usefulness for the integrated NCD prevention.

THE PREVALENCE OF POSITIVE UREASE TESTS FOR CAMPYLOBACTER PYLORI IN 90 CONSECUTIVE GASTROSCOPIES.

A. Caruana Galizia.

Gastric mucosal colonisation by the organism Campylobacter pylori is being increasingly implicated in the causation of chronic atrophic gastritis, and of recurrent duodenal ulceration.

Commercially available Delta-CLO test plates were employed, using Gastric antral biopsies, to test for the presence of Urease producing organisms, in 90 consecutive gastroscopies that were conducted on 90 patients.

The prevalence of positive Delta CLO testing in this group of 90 patients was found to be 49% (44 out of 90 patients).

Gastric antral biopsies were taken concurrently. This paper compares and analyses the endoscopic and the histological findings in patients giving a positive urease test, and in those giving a negative urease test.

PRE-INDUCTION CERVICAL RIPENING

A prospective randomised study of intra-cervical postaglandin E2 and the sequential use of oestriol with prostaglandin E2.

J. Mamo.

A prospective randomised study was conducted to assess the effect of intravaginal oestriol as a cervical priming agent prior to the use of intracervical Prostaglandin E2. Seventy eight patients with an unripe cervix, in whom delivery was indicated, were randomly allocated to one of two groups. One group received 500 mcg intracervical prostaglandin E2 gel. The second group received 1 mg oestriol pessary intravaginally 12 and 6 hours prior to 500 mcg intracervical prostaglandin E2.

Our results show that the use of sequential oestriol and intracervical PGE2 is a more effective ripening method. There was a significant improvement in the Bishop score and a significantly shorter latent phase in the oestriol primed patients. Also, in the oestriol treated group, there was a decreased need for augmentation.

These findings suggest that exposure of the cervix to low doses of oestriol for twelve hours, increases the efficacy of intracervical prostaglandin E2. Although the search for the ideal cervical ripening method continues, the use of sequential oestriol and prostaglandin E2 would seem to mimic the onset of spontaneous labour.

INDUCTION OF LABOUR: A COMPARISON OF PGE2 GEL WITH PGE2 PESSARIES

L. J. Sant Cassia E. Payne M. F. Reed K. Cietak W. R. Anderson.

A prospective randomised trial was conducted at Coventry Maternity Hospital to compare the efficacy of Prostin E2 vaginal tablets and Prostin E2 vaginal gel for the ripening of unfavourable cervices and the induction of labour, and to establish the cost effectiveness of each treatment.

A total of 200 patients were studied, 104 were given tablet and 96 gel. All had singleton pregnancies and a gestation of 36 completed weeks.

All patients were asked to complete a standard questionnaire using a 100mm, linear analogue scale to assess the patient acceptability of the two methods of induction.

The trial showed cervical ripening and induction of labour with Prostin vaginal tablets and Prostin vaginal gel is acceptable to the patients. Twenty percent of patients avoided amniotomy, and 40 percent and 50 percent respectively of patients avoided augmentation of labour.

The use of gel was associated with a significant decrease in the induction (P .02) to delivery interval, an average difference of 3 $^{1}/_{2}$ hours, with a consequent saving of 350 hours of midwifery time during the course of the study.

COMPUTERIZATION OF OBSTETRIC DATA

C. Savona Ventura E. S. Grech.

The collection and evaluation of obstetric data is essential for assessing the effectiveness of the health and social services in a country. The Maltese Islands are specially suited for epidemiological studies on obstetric patients since about 90% of all deliveries occur in the State Hospital in Malta. Before 1983, the clinical annual reports compiled by the Department of Obstetrics & Gynaecology were laboriously assembled by hand from the labour ward registers. In 1983, in conjunction with the Government Computer Center, a statistically event-oriented programme for all patients delivering at Karin Grech Hospital was introduced and continued until 1986. Data capture included over 99% of patients. The programme facilitated the preparation of a detailed annual clinical report and the evolution of a number of epidemiological studies. During 1986, in line with the Department of Health policy to introduce a person-based record into computer for all patients who encounter government medical services, the statistically oriented obstetric data base was modified into a person-based obstetric record system. During its first year of implementation - 1987 - 91% of obstetric case record were introduced onto computer. The data sheets include important socio-biological data of a general character, besides the obstetric data. The scope of this system is to make easily available the individual patient record to the clinician and facilitate statistical analysis to audit the adequacy and effectiveness of the health and social services in a country. The system in use is the Computer Stored Chemical Industries (CMG-COSTAR), which is basically a highly structured medical case record with analytical facilities. The data sheets in use in the Department of Obstetrics & Gynaecology should be modified and expanded for use in other departments in the Government Medical Services.

THE ROLE OF MEDICAL AUDIT IN GENERAL PRACTICE

M. Agius

A system of Medical Audit used in the Author's N.H.S. practice is described.

The role of regular audit in assessing the standards of continuing care and preventive care in the practice, in raising questions and suggesting solutions is discussed.

The establishing of criteria for audit and the choice of specific "marker" criteria for re-audit in order to check whether standards are being maintained and improved is discussed.

The establishment of audit in the author's practice has led to the establishment of standardised protocols and "mini-clinics" for the treatment of various chronic diseases in the practice and in the increased uptake of various preventive services. Graphic representations of various audits carried out in the practice, such as those relating to care of Diabetes, Asthma, Hypertension, Hypercholesterolaemia and to preventive services such as Coronary Artery Disease prevention, the cervical smear uptake rate and immunisation rates are used to illustrate how medical audit has improved care in the practice.

ENDOVESICAL ADRIAMYCIN THERAPY FOR SUPERFICIAL BLADDER TUMOURS

G. Caruana Dingli C. L. Cutajar

Superficial bladder tumours are a common problem in the Maltese Islands. Conventional therapy by transurethral resection of the growths is associated with a high (c 70%) recurrence rate. There is evidence that endovesical chemotherapy significantly reduces this recurrence rate, improves cure rate and possibly even diminishes progression rate. In 1984, a prospective trial was started by the Department of Urology, St. Luke's Hospital, using Adriamycin post-operatively for superficial (Ta, T1) bladder tumours. The results in 43 patients are described. A complete response rate of 69% and a progressions rate of 9.4% in this series confirm the value of endovesical Adriamycin in the therapy of this type of tumour in Maltese patients.

BENZODIAZEPINE DEPENDENCE - A REVIEW

D. Cassar

Benzodiazepines are the most commonly prescribed drugs in the Western World. 11-17% of a population will use them at some time during a year and 1.5-3% for more than a year. At a very conservative estimate there are thus 7000 long term users, or 40 per general practitioner, in Malta. Daytime sedation, cognitive deficits, decreased psychomotor performance, neuro-radiological changes, dependence and a withdrawal syndrome are among the risks of prolonged treatment. However, there is little evidence that benzodiazepines remain effective when used over long periods. These issues will be explored further.

Dependence occurs in a large number of users and may be met even in patients taking benzodiazepines for a few weeks at low therapeutic dose. Overall a withdrawal syndrome is found in 40-100% of cases.

Discontinuation in the majority of cases can be carried out by GP's. The management of withdrawal will be detailed. Importance will also be given to psychological support and possible pharmacological adjuncts will be outlined.

Prevention of dependence must be our future aim. Initial prescribing has to be appropriate, short term and low dose. Other forms of intervention will be considered. Non-specialised GP counselling is as effective as benzodiazepines in the treatment of minor affective disorder.

MAGNETIC RESONANCE IMAGING IN MUSCULO-SKELETAL DISEASE

V. Cassar-Pullicino

Magnetic Resonance Imaging (M.R.I.) is the foremost method for diagnostic imaging of the musculo-skeletal system. Its pre-eminence results from its extreme sensitivity to variations in the water content of normal and pathologic tissues.

There are several features of M.R.I. that make it particularly attractive for musculo-skeletal imaging:

1. The superior soft-tissue contrast resolution of M.R.I. relative to that of C.T.

2. The ability of M.R.I. to image the body directly in the sagittal, coronal and axial planes.

3. The ability to vary the contrast level between tissues by manipulating the M.R.I. pulse sequence parameters.

4. The lack of beam hardening artefacts and the capacity to image in the presence of metallic hardware.

Magnetic Resonance Imaging of the musculo-skeletal system currently appears to hold great promise in five major areas:

1. The non-invasive imaging of the spine and disc disease.

2. The early detection of osteo-necrosis.

3. The evaluation of the presence, extent and tissue characterisation of musculo-skeletal tumours.

4. The assessment of focal and diffuse marrow replacing processes.

5. The depiction of articular and peri-articular structures.

M.R.I.'s ability to detect earlier and more subtle lesions leads to earlier treatment, better staging and is a valuable adjunct in assessing therapeutic response.

NEONATAL NECROTISING ENTEROCOLITIS

P. Soler D. Soler D. Azzopardi.

Necrotising enterocolitis (NEC) is a serious and common gastrointestinal problem seen in neonatal intensive care units, with an incidence of 1 to 5% of all babies admitted to the S.C.B.U. The incidence is higher in babies below 1500g birth weight and is about 12%. The reported mortality may be as high as 55%. The aetiology of NEC is still unclear despite extensive study. This paper reports all five neonates with NEC admitted to the S.C.B.U. in Malta between 1st January and 30th September 1989 with emphasis on risk factors, presentation, treatment and outcome.

In this period the number of neonates admitted to S.C.B.U. is 132, the incidence of NEC for this period being 3.8%. The number of deaths in the same period is 28, NEC accounting for 2 of the deaths (7.1%).

NEC is an important cause of morbidity and mortality in neonates despite increasing awareness of the problem, earlier diagnosis and higher standards in neonatal intensive care.

AUTISM OF THE ASPERGER TYPE ASSOCIATED WITH AN AUTOSOMAL FRAGILE SITE

J. R. Saliba M. Griffiths.

It is now well established that the Autistic Syndrome is a biologically determined behavioural disorder with multiple aetiologies. Although genetic and chromosomal influences have been demonstrated, these are still incompletely understood.

Several reports have indicated some cases of autism to be associated with the fragile X syndrome. Autism has also been described in association with structural autosomal defects and autosomal fragile sites, however the clinical significance of such sites, if any, is not clear.

The Authors describe a case in which autism of the Asperger type occurred in association with the heritable fragile site 2q13 which he inherited from his mother and which also was present in his sister. Only 2 cases of autism in association with this fragile site have previously been described in the literature and again the significance of this association has not been established. The Authors consider it likely that the fra(2)(q13) observed in this patient represents a co-incidental finding but cannot exclude the possibility that such an association is significant and discuss various mechanism by which this could occur.

Whether or not the relationship between the fra(2)(q13) and autism in this case is causal or co-incidental it would still be interesting to know how often fragile sites other than fragile X, or indeed any other chromosome anomalies, are found in association with autism.

INFANTILE GENERALISED GANGLIOSIDOSIS IN THE MALTESE POPULATION

H.M. Lenicker

Since this condition emerged as a distinct clinical entity following the work of Turner et al (1959). Landing et al (1964) and Okada and O'Brien (1968) Maltese paediatricians soon recognised the disease in Maltese children. Measurement of the deficient enzyme, beta-galactosidase, became available in 1970 at the Enzyme Research Laboratory of the Institute of Child Health, London. This facility has helped in precise diagnosis of GM1 gangliosidosis.

While the frequency of infantile GM1 gangliosidosis was noted to be high in Malta, data on the homozygous and heterozygous frequency of the condition had yet to be reported.

The author reviewed all 34 patients (from 28 families) with GM1 gangliosidosis who had presented between the years 1967 and 1987 at St. Luke's Hospital.

Nineteen male and 15 female infants generally presented between the ages two and six months. In index families diagnosis was reported from finding of vacuolated lymphocytes in cord blood by Vassallo Agius et al (1972). The common mode of presentation was of bronchopneumonia (97%) in a child with coarse features (89%), wasting (68%) and hepatomegaly (88%). Other features which were recorded were:

Macrocephaly	38%	Hypotonia	64%
Absent gaze	73%	Splenomegaly	55%
Cherry red spot	26%	Inguinal hernia	20%
Oedema	65%	Seizures	50%
Mental retardation	64%		

Vacuolations in lymphocytes were found in all patients (100%). Beta-galactosidase estimation was carried out in 21 patients and levels varied from no activity to values between 1.5 to 13 n.moles/mg PTN/Hour. This enzyme's levels in 10 heterozygous parents varies from 66 to 120 n.moles/mg PTN/Hour.

INFANTILE GENERALISED GANGLIOSIDOSIS IN THE MALTESE POPULATION

H.M. Lenicker

The average duration of life from the time of diagnosis was 14 months with a range of 5 to 42 months.

From the present study it would appear that at least 34 cases of GM1 gangliosidosis have occurred out of 116,504 births which occurred during the period under review. It is estimated that the frequency of homozygotes for GM1 gangliosidoses in the Maltese population is 0.00029. The heterzygote frequency is 0.034.

THE ROLE OF PAEDIATRICS - A SOCIOLOGICAL POINT OF VIEW

S. Portelli.

A case is made for looking at medicine, and in particular at paediatrics in Malta, from a wider viewpoint. In our traditional society how can we adapt and change services for children in order to provide for their ever increasing needs in a changing society? Should we as medical practitioners concern ourselves with more than the immediate care and cure of those children who are referred, or who present themselves to us, with symptoms?

HB VALLETTA [a_2 $_2$87(F3)THR+PRO] AND HB F-MALTA-I [$a_2{}^{G}{}_{Y2}$117(G19)HIS+ARG] ARE IN LINKAGE IN THE MALTESE POPULATION.

A. E. Felice, J. L. Grech * W. H. Bannister *, F. Kutlar*,
A. Kutlar, J. B. Wilson *, B. B. Webber *, H. Hu*, T. H. J. Huisman.

We have started a survey of hemoglobin variants among Maltese babies (5,500 births/year) using cellulose acetate electrophoresis, IEF, and reversed phase HPLC. A common finding is the $^{G}{}_{Y}$ variant Hb F-Malta-I which may occur in the Maltese population at a frequency of 1-2%. An additional chain variant was detected by reversed phase HPLC in cord bloods of all babies who carried the Hb F-Malta-I mutation. It is present in about the same quantity as the normal $_{A}$ chain; average data for 27 newborn babies from Malta and two from Sardinia were 11.8 $\pm$ 5.3% ^{X}, 12.0 $\pm$ 5.4% ^{A}, and 76.2 $\pm$ 10.6% . Structural analyses identified a Thr+Pro substitution at position 87 which corresponds to the third position of the F helix. Analyses of isolated Hb A and Hbs A + X from appropriate cord blood samples and of red cell lysates from parents showed that Hb X was a stable variant. No hemolytic anemia was detectable in the parents. This observation confirms the general assumption that the introduction of a proline residue in either one of the first three positions of an helix does not cause an instability of the protein.

The linkage of the two variants due to mutations on two different globin genes, some 27-28 kb apart, offers a unique opportunity to determine recombination frequencies, particularly because crossovers seem to occur preferentially between the B and loci. Preliminary data are available for 79 newborn babies with the F-Malta-I variant, for 39 adult -thalassemia heterozygotes, and for 103 normal adults; none carried the -Valletta mutation. These results, in this stable population, suggest very low frequencies of chromosomes with the Hb F-Malta-I mutation alone, or with the Hb Valletta mutation alone. These studies are continuing.

SPINOCEREBELLAR DEGENERATION

L. Agius

There is no satisfactory definition for the term "degeneration". The term "abiotrophy" or "loss of vitality" was introduced at the turn of the century by Gower to indicate what he considered to be the essential nature of these disorders.

It is to be pointed out however, that simple neuronal dropout does not occur in these conditions, and that the loss of neurons is accompanied by a glial reaction.

Friedreich's ataxia, although a rare disorder, is the commonest hereditary cause of ataxia. It tends to have more constant core manifestations. Olivopontocerebellar atrophy is inconstant and varied in its expression. No two cases are identical. Involvement is centered around the olive and pons. There is frequent lack of correlation between clinical findings and anatomic lesions. Trans-synaptic degeneration was invoked in the past but the tendency now is to consider these disorders as multiple system diseases rather than as "linked" or "chain" disorders.

A particularly distinctive feature of the Olivopontocerebellar atrophies is the considerable variation in both clinical and pathologic features in various members of the same family.

This may be indicative of a defect in the regulation of gene expression as the fundamental basis for this group of disorders.

MONITORING IN ANAESTHESIA

G. M. Boffa.

Monitoring during anaesthesia is receiving much prominence especially following the formulation of specific, detailed, mandatory standards for minimal patient monitoring such as those of the Dept. of Anaesthesia at Harvard and the American Society of Anaesthesiologists in October 1986.

However, the standards published and enforced in the richer countries should not be imposed upon anaesthetists elsewhere, nor should such standards be the basis of medico-legal litigation in circumstances far removed from those of nations like the U.S.A. with its depressing litigation situation.

It remains the duty of individual anaesthetists, Anaesthetic Associations and Health Authorities to note that such standards do exist and to aim for the highest level of safety possible in their particular circumstances.

The range of monitoring apparatus available today was only dreamt about a decade or two ago. A number will be profiled. Two - pulse oximeter and capnograph will be discussed in greater detail.

It will also be emphasised that monitoring <u>in</u> anaesthesia does not entail solely the use of skill and apparatus <u>during</u> anaesthesia.

It also involves many other aspects including, for example, selection of candidates for training in the specialty, accreditation of Departments of Anaesthesia, peer review, assessment of street-fitness in day-stay surgery, morbidity and mortality statistics.

In this context the work of the N.S.W. Special Committee on Mortality in Anaesthesia will be discussed.

PROTEIN COMPLEX OF UNUSUAL APPEARANCE AND BEHAVIOUR IN A SUB-GROUP OF PATIENTS WITH DEMYELINATING NEUROPATHY

I. Lolin

The protein electrophoretic patterns on agarose gel from sera of six thousand patients referred to a neurological centre were visually examined. Immunoelectrophoresis (IEP) was carried out on all sera where the protein electrophoretic patterns had shown the presence of a paraprotein band or an 'artifact' and on sera of all patients with peripheral neuropathy. Following IEP, a 'band' remaining at the point of application of the sample, similar in appearance to that noted after routine electrophoresis, was observed with 13 out of 102 sera. The 'band' could not be removed by vigorous washing of the gel. 11 of the sera contained anti-myelin associated glycoprotein antibodies (anti-MAG) and belonged to patients with 'idiopathic' demyelinating neuropathy. The 'bands' were easy to detect on home-made and Corning agarose gels, less so on Titan Gel and were not observed on cellulose acetate membranes.

Preliminary studies have revealed that the 'band' at the origin may be a complex of IgM (possible derived from IgM paraprotein) and an antigen that can be immunofixed with anti-MAG and anti-Leu 7 antibodies. The origin of the MAG-like antigen in the sera and the reason for detecting the complexes on some but not other electrophoretic media have been discussed.

There is increasing speculation that a subgroup of 'idiopathic' peripheral neuropathies associated with IgM paraproteins may be of autoimmune origin. In this study, sera of 58% of patients with IgM paraprotein and neuropathy of undetermined origin had the 'band' at the origin following IEP on agarose gels, and were the only sera to also have anti-MAG antibodies. It is suggested that all sera containing a 'band' at the origin following protein electrophoresis and IEP on agarose are tested for anti-MAG antibodies, and that sera of all patients with 'idiopathic' neuropathy are screened in the first instance by electrophoresis and IEP on agarose.

TRAIL OF METOCLOPRAMIDE HCL IN THE CONTROL OF POST OP NAUSEA AND VOMITING FOLLOWING NARCOTICS USE DURING GENERAL ANAESTHESIA

N. AZZOPARDI A. PADOVANI

The usefulness of pre-operative antiemetic drug Metoclopramide HCl orally as an inhibitor of nausea and vomiting caused by the use of narcotics during general anaesthesia has been assessed in 50 patients. Also tested were another 50 patients who had only a placebo. In the 100 patients studied, the authors intentionally excluded cases of intra-abdominal surgery. A significant beneficial effect was noted following the pre operative oral use of Metoclopramide HCl.

CLEFT LIP AND PALATE - A 7 YEAR REVIEW (1982-1988)

R. Calleja C. Swain

In this 7 year review, 72 patients were born with cleft lip and palate. The overall male and female ratio was 3:2. Operation was undertaken at an average age of 5 months in cleft lip and 13.6 months in cleft palate.

Cleft lip alone effected 28% of all cases. Cleft palate alone accounted for 50%; the remaining 22% involved a combination of malformations varying from clefts involving all the primary and secondary palate (total unilateral and bilateral clefts) to clefts involving limited parts of the palate (eg. bifida uvula).

Cleft lip was commonest on the left side (7:3 ratio). Operations performed for cleft lip repair included Le Mesurier, Tennison or Millard techniques (or variations thereof). A vomerine flap to the alveolus was used in cases of cleft lip including the alveolar margin. Hard palate defects were covered with a 3 flap repair.

The average stay was 9.6 days with duration of stay varying from 6 to 17 days.

55% of all children were first born; only some 15% of mothers on preliminary questioning admitted to having had medical treatment in the first trimester of pregnancy. Some 6% had a family history of cleft or palate in first degree relatives.

Some 20% of all patients were found to suffer from other malformations - the commonest being Pierre Robin syndrome, and mental retardation.

INBORN ERROR OF TRYPTOPHAN METABOLISM

(Defective hydroxylation of kynurenine resulting in pellagra like skin rash, colitis and neutological manifestations)

V. Calvagna

A nine year old girl with a pellagra like skin rash, colitis and neurological symptoms was found to have defective hydroxylation of kynurenine following a tryptophan loading test. Treatment with nicotinamide was successful in resolving her symptons. This metabolic defect has not previously been reported in the medical literature.

ENDOSCOPIC RETROGRADE CHOLANGIO PANCREATOGRAPHY INDICATIONS AND RESULTS IN TWENTY-TWO PATIENTS

A. Caruana Galizia.

Endoscopic Retrograde Cholangio Pancreatography was attempted in twenty two patients during the period 1st January 1988 to date.

Failure to cannulate the ampulla of Vater occurred in four of these patients.

In the remaining eighteen patients, the Common Bile Duct was demonstrated in fourteen, and the pancreatic duct in eleven. Both common bile duct and Pancreatic duct were demonstrated in seven patients, sphincterotomy and removal of stones in one patient.

This paper analyses the indications for ERCP in this group of patients, and also the findings.

HYDRANENCEPHALY - FATAL NEONATAL CONDITION EASILY MISSED

A. Mifsud M. Bailey S. Aquilina

Despite its rarity and uniformly fatal outcome, Hydranencephaly can be a source of embarrassment to the paediatrician who fails to recognise the condition early on in the neonatal period. Furthermore, psychological trauma to the mother is greater if the infant is allowed to be taken home, only to be brought back to hospital to die there - THIS IS ONLY TOO FREQUENTLY THE COURSE OF EVENTS THAT IS OBSERVED.

Over the past decade in Malta, the methods employed in the diagnosis of the condition are briefly reviewed; transillumination followed by ultrasound and finally by CT scan. Although radiologically, the condition is diagnosed ante-natally, no case in Malta was detected in this manner, nevertheless without the aid of U/S and CT scan, a few clinical observations should serve to alert the paediatrician to the diagnosis which could be subsequently confirmed by radiology.

Although the affected neonate is not dysmorphic and feeding difficulties are extremely common in this period, the associated tendency to hypothermia and the failure of reaction to photic stimuli should be sufficient to warrant further investigation.

A brief outline of its history and aetiology is presented. together with a table of the cases which have occurred in Malta over the past decade.

CLASSIC KAPOSI'S SARCOMA
REPORT ON TWO CASES

V. Muscat

Two elderly patients (one male and one female) presenting with late stage disease with typical lesions were seen and treated at the same time in 1986. They were successfully treated by combination chemotherapy and to date they are both alive and well with no clinical evidence of relapse. The different types of Kaposi sarcoma, together with incidence and epidemiology; aetiology and pathogenesis; pathological and clinical features, staging, investigation and different treatment modalities will be discussed. Differential diagnostic features between classic, African and Aids related Kaposi sarcoma will be presented.

PSEUDOAINHUM - A DERMATOLOGICAL ODDITY

P. Gatt J. L. Pace

An eight week old baby presented with a deep constriction round the base of the third right toe, of one day's duration. A strand of filamentous material was found and uncoiled from the depths of the cleft which subsequently healed within a week. Recurrence in the same digit four weeks later raised the question of factitious disease.

Pseudoainhum refers to a constricting band around a digit or limb, congenital or acquired. It must be distinguished from true ainhum, where a painful, idiopathic constriction of the fifth toe in dark-skinned adults results in spontaneous amputation of the digit.

THE CLINICAL SPECTRUM OF CUTANEOUS LEISHMANIASIS

J. L. Pace

Although cutaneous leishmaniasis is widely prevalent around the Mediterranean. it was not reported in Malta until the last few years when a handful of cases have occurred, mostly but not exclusively from Gozo.

Since few Maltese physicians have personal experience of this disease, the author draws on his experience of cases in Saudi Arabia and Malta to illustrate the ease of a clinical diagnosis once the disease is suspected - ie:

1. a lesion(s) in an exposed area,

2. with little or no itching or pain,

3. which had persisted for weeks or month in spite of antibiotics etc etc,

4. often but not always centrally ulcerated,

5. in a resident or a visitor to Gozo (even many months earlier provided he/she returned after sunset when sandflies emerge):

IS CUTANEOUS LEISHMANIASIS UNTIL PROVED OTHERWISE

Laboratory confirmation may occasionally be needed in difficult cases or when the physician is inexperienced in dealing with this problem.

VISCERAL LEISHMANIASIS (VL) AS A CONCOMITANT INFECTION IN AIDS

A. Galea Debono, J. L. Pace, A. C. Vincenti.

VL is endemic in the Maltese Islands. The case is presented of a 39 year old haemophiliac, one of many who contracted HIV from a single batch of Factor VIII concentrate some years ago. During treatment for cerebral toxoplasmosis and pneumocystis pneumonia, a bleeding rectal 'tumour' was detected. Histological examination revealed Leishman Donovan bodies in histiocytes.

A handful of similar cases have since been reported in the literature.

RECURRENCE OF VISCERAL LEISHMANIASIS IN CHILDREN

D. Azzopardi

Visceral leishmaniasis (VL) is a protozoal infection causing a systemic illness which if untreated may be fatal. Pentavalent antimony (pentostam) is the usual treatment, but in the African form of VL recurrence following treatment may occur especially in children with intercurrent tuberculosis. Until recently recurrence of VL in Maltese children was not observed. This report describes recurrence of VL in 5 children and the management is discussed with particular reference to 2 cases.

VL may recur following treatment. A further course of pentostam 20 mg/Kg daily and allopurinol 20 mg/kg daily should be given and response can be monitored by bi-weekly splenic aspirate. Treatment should probably continue for 4 weeks after Leishman donovan bodies are no longer seen on inspection of many high power fields of the splenic aspirate.

(THE TUR SYNDROME)

A. Agius L. Cutajar.

The TUR Syndrome, a complication of transurethral resection of the prostate, characterised by bradycardia, hypotension and post-operative confusional state, is generally attributed to hyponatraemia occuring during or immediately after operation. In a prospective study of 100 consecutive patients undergoing TUR of the prostate, changes in serum sodium were estimated pre- and post-operatively and correlated with various parameters including, the patient's age, weight of prostate resected, volume of irrigant fluid and resection time. Seven patients showed a significant drop (10mmol/L) in serum sodium; 2 of these patients exhibited the clinical features of the TUR syndrome and one of them died. The pathogenesis and management of this syndrome are discussed.

FACILITIES FOR TREATING BURNS IN MALTA

F. X. Darmanin C. Swain

Current facilites for treating burns in Malta, an island with a population of 340,000 are described. There is a 6 - bed Burns Unit in St. Luke's which is the teaching hospital. In the last twelve years an average of 50 patients annually have required admission after burns injury although there is a slow downward trend in this number.

The cause of burns and the outcome of treatment in 56 patients who were admitted in 1988 are reviewed. Scalds accounted for half the admission and occured mainly in children under 5 years. Inflammable fluid and gas explosions accounted for most of the serious burns although fireworks explosions were also a problem. Of the eight deaths that occured, three were due to renal failure, three to septicaemia, one to multiple injuries and another to congestive heart failure.

The number of domestic gas explosions still causes concern while the severity of some scalds in children caused by hot detergent solutions is underlined.

The facilities available are adequate for the needs of the population under normal circumstances and can be extended if necessary if any emergency arises.

CONTRAST MEDIA REACTIONS IN RADIOLOGY DEPARTMENT

A. Zammit A. Falzon

The following is a study of 4,981 patients, age ranging from 6 years to 69 years, who had undergone radiological procedures using contrast media during the period of 1st April 1988 to 31st March 1989. A register was kept of all reactions which required treatment thus excluding minor adverse reactions such as nausea and vomiting which tend to subside spontaneously. Most patients were given Urografin 60% (Diatrizoate) with a smaller number given Conray 420 (Iothalamate) while in patients who gave a history of allergy to contrast medium, non-ionic contrast (Iopamido or Omnipaque) was used.

COMMENTS: This is a small study of about 5,000 examinations and the resultant reactions. One would have to assess at least 40,000 examinations to encounter all types of reactions possible, the death rate being 1 in 40,000. This is a project we hope to tackle in the future.

CONCLUSION:

i. Rate of contrast media reactions in IVU's is approximately 1%.

ii. Reactions of contrast media occuring in Angiography and enhanced CT Scanning is less than these for IVU's.

iii. Reactions to IV cholangiographic contrast media are more often encountered than reactions to other contrast media.

THE MOLECULAR BASIS OF NON-ALPHA THALASSEMIAS

D. C. Mamo

Thalassemia comprises inherited blood diseases in which a globin chain is missing or produced in reduced amounts. Adult haemoglobin is a tetrameric molecule consisting of two alpha and two beta globin chains. When insufficient quantities of either chain is produced, two little haemoglobin is made and the patient is anaemic. Beta thalassemia is a heterogenous condition in which insufficient beta globin chains are produced. The greater clinical severity of beta thalassemias lies in the fact that free alpha globin chains are insoluble. They therefore precipitate in developing erythroblasts leading to marked ineffective erythropolesis: severe disease does not usually occur in alpha thalassemias except when no alpha chains are produced at all. Most beta thalassemia conditions may be accounted for single nucleotide substitutions or deletion involving one or few nucleotides. Six cases are known to be due to large deletions affecting part or all the beta globin chain. Other variants of beta thalassemia include the Hereditary Persistence of Fetal Haemoglobin (HFFH), delta-beta - Thalassemia, gamma-delta-beta - Thalassemia, and A(gamma-delta-beta-) thalassemia. They are particularly interesting in the study of the fetal switch in the beta globin gene cluster. Beta thalassemia Intermedia is a condition in which the anemia caused by a beta thalassemia gene is ameliorated by a second factor resulting in a minor pheno-type. Another non-alpha thalassemia is delta-thalassemia which results in a decreased or absent Hb A2; this is a very rare condition. In Malta alpha-thassaemia is rare, or even absent, but 4.2% of the population has beta-thalassemia trait. Four variants of globin chains have been identified here, though they are clinically benign; however they are of considerable genetic interest. The identifications of the molecular basis of thalassemias is not only of academic interest. Prenatal diagnosis is one clinical aspect of extreme importance; genetic counselling is already benefiting from these discoveries. The identification of the fetal switch and its utilisation in recombinant DNA technology may lead to the amelioration of patients' anaemia. Finally, thalassemias serve as models of genetic disease, and the understanding of their molecular basis will thus augment comprehension of many more molecular diseases.

DISTRIBUTION AND FUNCTIONS OF INTRACELLULAR Ca AND Mg ACTIVATED ADENOSINE TRIPHOSPHATASES.

A. Cuschieri (Malta)

The ultrastructural localization of Ca^{2+} - Mg^{2+} activated ATFase using a lead capture method was shown to be critically dependant on the pH of the incubation medium and on the fixation procedure. At a pH of 8.5 enzyme activity is localized mainly on the nuclear envelope, endoplasmic reticulum. Golgi apparatus, and mitochondria and weakly on the centrioles. The intensity of activity at these sites varies in cells of different tissues and in different stages of the cell cycle. Mitochondrial ATPase activity differs from that at the other sites in its sensitivity to oligomycin. It is involved in oxidative phosphorylation. ATPase activity in the nuclear envelope and endoplasmic reticulum, which form one continuous system, appears to be involved in Ca transport into the lumen of this system for the control of intracellular Ca^{2+} concentration which in turn participates in the regulation of various cellular processes. ATPase in the Golgi apparatus was particulary high in intestinal absorptive cells although its function is unclear. ATPase in centrioles and microtubules of dividing cells probably represents the dycein-activity was localized mainly on the plasma membrane with practically no activity at intracellular sites. This represents a non-specific exoenzyme which is present in most cells but occurs in very high concentration along the brush border and basolateral plasma membrane of renal tubular cells and on the brush border of absorbtive intestinal cells.

ARSENIC AND MALIGNANCY - Cause and Effect?

M. Micallef J. L. Pace.

A patient who underwent thoracotomy several years ago for bronchial carinoma presented with multiple skin tumours needing various modes of therapy both in Malta and the UK.

He remembers his mother to be a great believer of tonics 'for the blood' and it is postulated that haematinics containing minute amounts of arsenic as is known to have been the practice at that time may have been related to both problems i.e. neoplasms in lung and skin.

The role of arsenic in promoting malignancy is discussed as is also a more controversial concept of the 'protective' role of this element in certain types of tumour.

INTRALESIONAL INTERFERON ALPHA-2b IN THE TREATMENT OF OVERT AND OCCULT LESIONS CAUSED BY H.P.V. INFECTION.

M. WALZMAN[1] A.A.H. WADE[1] L.J. SANT CASSIA[2]

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Three male patients with overt penile H.P.V. infection demonstrated a good therapeutic response to intralesional interferon alpha-2b (INTRON A), and this mode of treatment was regarded by these patients to be similar in acceptance and discomfort to that of cryocautery.

Of four female patients with occult H.P.V. infection of the vulva and associated dyspareunia who were treated with interferon, two demonstrated a very good response in both their symptoms and vulvoscopic findings, while the other two failed to show any response. All four of these patients developed 'flu-like' symptoms with the treatment.

FUTURE PROSPECTS FOR EPIDEMIOLOGY IN MALTA

J. J. Mamo J. M. Cacciottolo

There is increasing worldwide recognition of the growing importance of Epidemiology both as a tool for research in clinical medicine, and as a basis for health policy planning and evaluation.

Malta could play a key role as a base for epidemiological studies in view of special considerations. Characteristics in this respect include a "captive population" of manageable size (yet comparable to that of many a small city elsewhere), the single general hospital through which the great majority of illnesses and major life events are channelled, and a centralized system of health management working in close association with a primary health care network. There are similarities in certain aspects to industrialized countries, yet comparability in other aspects to those obtaining in less developed parts of the world. In addition to a centrally registered population, there is a planned system of record keeping and linkage for primary, secondary and tertiary health levels.

The mortality and morbidity patterns of non-communicable disease emerging in recent years place Malta in much the same position as that of Northern European countries and is seemingly incompatible with geographically neighbouring patterns.

The risk factor profile for the Maltese community presents characteristics typical of material affluence; a general lack of exercise, a nutrient pattern including high fat, energy and sugar intake, and high prevalence of hypercholesterolaemia, obesity and cigarette smoking. Maturity onset diabetes mellitus and hypertension are also highly prevalent and constitute important risk factors as well as disease entities in their own right.

This overall picture offers an interesting population for epidemiological study in terms of demography, common exposure status, disease status, aids to survey methodology and ascertainment. Malta may be considered ripe ground for such research lacking little but an observant eye, goodwill, adequate support and plenty of hard work for those ready to accept the scientific challenge.

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