
Journal Update

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Letter from the Editors

As editors of Journal Update we aspire to give you the best quality magazine with the most up to date articles. This is only a possibility if the students and doctors who read this magazine contribute to it, giving us not only the latest peer-reviewed articles, but also the highest quality content possible.

Writers can share their interest in their field of interest by letting others know about the latest developments in that speciality and educating their peers in a concise and easily accessible manner. If you wish to contribute to Journal Update, be it in regards to summaries or technical aspect designing of the magazine itself we greatly encourage you to email mmsjcmail@gmail.com, so

we can discuss your possible contribution to the magazine. Besides the gratification of contributing your fellow colleagues' education, this is also a great opportunity for contributors to further embellish their CV through certification from the editors and certification from Degree Plus.

We want to stress that this is a concept still in its infancy and any criticism or ideas are greatly welcomed to improve further issues of Journal Update and help improve the quality of your education throughout medical school and post-graduate training.

Feedback
Form

Thomas Borg Barthet & Dale Brincat



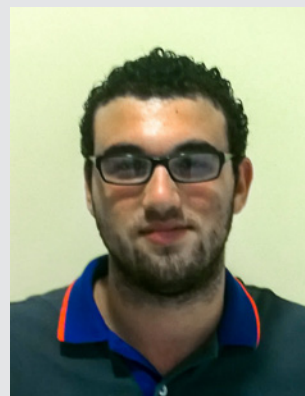
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Message for Journal Update

The Malta Medical Journal Club (MMJC) society aims at making research a focus for students' academic experience and in their eventual practice as doctors. Through the MMJC meetings and now this Journal Update we intend to promote an environment where students are more research oriented. We hope that such an initiative will help upcoming students sprout interest and appreciate research. This will make way for progress in innovation and leadership thus placing Malta and its University at the forefront of research.

This is the first publication of the "Journal Update" which highlights the most important recent publications and their findings from highly influential and top ranking medical journals. Since this is targeted at the undergraduate student this will help its readers identify those papers that are mostly relevant to their future clinical practice and those that will contribute to the holistic medical education provided at this University. We encourage readers to use this update as a form of guidance, to keep themselves updated and get an overview of current research publications. It is important for readers to make their own judgement of the studies that the editors highlight by reviewing the actual paper.

We want to create a platform of solidarity in the distribution of information, where we can let each other know what's happening in current research. Therefore, we encourage anyone to participate, bring to our attention current research and prepare summaries for the subsequent issues of the Journal Update.

So if you come across any interesting or relevant research to the medical studies, you now have a means to share it and bring it to the attention of others.

We would like to thank all those who helped make this first issue possible. Special thanks go to Prof. Joseph N. Grima and Mr. Jeffrey Dalli for guiding us in starting the original

We hope that this will help you "keep track of research updates".

journal club, and to our academic tutors at the Faculty of Medicine and Surgery for inspiring us to always think outside the box.

Gilbert Gravino & Gianluca Gonzi



Anemia, an Independent Predictive Factor for Amputation and Mortality in Patients Hospitalized for Peripheral Artery Disease

Aim of Paper

To investigate whether significant anemia and its severity influences the outcome of hospitalized patients for Peripheral Artery Disease related pathology.

Summary

- This is a prospective Cohort Study. The sample size was 925 chosen from three university hospitals in south-western France, The COHORTE de Patients ARTériopathes (COPART).

- The study confirms that anaemia is a strong and independent predictor for limb loss and mortality in patients hospitalized for PAD. There is a direct correlation of severity of anaemia with mortality and limb loss.

Details

- Patients admitted to these three hospitals with severe claudication requiring revascularization, or chronic limb ischemia, or acute limb ischemia related to atherosclerotic lesions. Severity of the disease was graded using the Rutherford Category.

- Interventions adhered to guidelines.
- Haemoglobin values were measured on admission. Anaemia was considered <8.2 mmol/L in men and <7.6 mmol/L in women. Anaemia was present in 50.9% of patients.

- Patients were followed up at one year to assess mortality and major amputation.

- The study does not however state whether treating the anaemia improves the outcome or not.

Relevance to undergraduates

Vascular Surgery/Prognostic factors in PAD

Where to find it



European Journal of Vascular & Endovascular Surgery
August 2014;48(2):202-7
DOI: 10.1016/j.ejvs.2014.04.005.

Thomas Borg Barthet MD4



Peripheral blood lymphocyte telomere length as a predictor of response to immunosuppressive therapy in childhood aplastic anaemia

Aim of Paper

To investigate whether peripheral blood lymphocyte telomere length is a predictor of response to immunosuppressive therapy in childhood aplastic anaemia.

Summary

- Those who responded to therapy had a telomere length of -0.4 standard deviations, whilst those who did not respond to therapy had a telomere length of -1.5 standard deviations when compared to the healthy individuals. There was significant difference in haematologic response and telomere length.
- The short telomere length in non-responders may be linked to the presence of cryptic forms of inherited bone marrow failure syndromes or the longer disease duration.

Details

- 64 patients of a median age of ten years (range 1.5-16.2 years) took part in this study.
- Patients were classified into very severe (23), severe (21) and moderate (20).
- Although first line treatment for severe aplastic anaemia is hematopoietic stem cell transplantation from HLA-matched sibling donor, 60-70% of children do not have matched sibling donors and receive immunosuppressive therapy.
- Immunosuppressive therapy consists of antithymocyte globulin and cyclosporine.
- The average relative telomere length of peripheral lymphocytes was measured by flow fluorescence in situ hybridization

(flow-FISH).

- Median follow-up time from the time of immunosuppressive therapy was 35 months.

Relevance to undergraduates

Paediatrics, Aplastic Anaemia, Factors in predicting response to therapy, Molecular biology

Where to find it



Haematologica

August 2014 ;99(8):1312-6.

doi: 10.3324/haematol.2013.091165

Thomas Borg Barthet MD4



Influenza Vaccination of Pregnant Women and Protection of their Infants

Aim of Paper

Assess the efficacy of vaccination against confirmed influenza in pregnant women with and without HIV infection and whether it provides protection for their infants.

Summary

The study involved two double-blind, randomized, placebo-controlled trials of trivalent inactivated influenza vaccine (IIV3) in South Africa during 2011 in pregnant women infected with HIV and during 2011 and 2012 in pregnant women who were not infected. The immunogenicity, safety, and efficacy of IIV3 in pregnant women and their infants were evaluated until 24 weeks after birth. Immune responses were measured with a haemagglutination inhibition (HAI) assay, and influenza was diagnosed by means of reverse-transcriptase–polymerase-chain-reaction (RT-PCR) assays of respiratory samples. The results of the study revealed that influenza vaccine was immunogenic in HIV-uninfected and HIV-infected pregnant women and provided partial protection against confirmed influenza in both groups of women and in infants who were not exposed to HIV.

Details

The attack rate for RT-PCR–confirmed influenza among both HIV-uninfected placebo recipients and their infants was 3.6%. The attack rates among HIV-uninfected IIV3 recipients and their infants were 1.8% and 1.9%, respectively, and the respective vaccine-efficacy rates were 50.4%

and 48.8%. Among HIV-infected women, the attack rate for placebo recipients was 17.0% and the rate for IIV3 recipients was 7.0%; the vaccine-efficacy rate for these IIV3 recipients was 57.7%.

Clinical Relevance

Respiratory Medicine, Vaccination

Where to find it



The New England Journal of Medicine
September 2014 4;371(10):918-31.
doi: 10.1056/NEJMoa1401480

Gilbert Gravino MD5



Atrial fibrillation and cognitive decline-the role of subclinical cerebral infarcts: the atherosclerosis risk in communities study

Aim of Paper

Assess the association of incident atrial fibrillation (AF) with cognitive decline in stroke-free individuals, stratified by subclinical cerebral infarcts (SCI) on brain MRI scans.

Summary

The study explored the unclear association between AF and cognitive decline in stroke-free individuals. The authors concluded that cognitive decline in stroke-free patients with AF can be explained by SCIs, suggesting that anticoagulation could be a strategy to prevent cognitive decline in AF patients.

Details

935 stroke-free participants were recruited from the Atherosclerosis Risk in Communities Study (a biracial community-based prospective cohort study. Cognitive testing was carried out in 1993 to 1995, 1996 to 1998, and 2004 to 2006, whereas brain MRI scans were performed in 1993 to 1995 and 2004 to 2006).

- 48 incident AF events were detected during follow-up, which in turn was associated with greater annual average rate of decline in two cognitive tests:
 1. digital symbol substitution (-0.77)
 2. word fluency (-0.80)
- for participants without SCIs on MRI, incident AF was not associated with cognitive decline.
- for participants with prevalent SCIs in 1993 to 1995, incident AF was associated with greater average rate of decline in word

fluency (-2.65).

- for participants who developed SCIs during follow-up, incident AF was associated with greater annual average rate of decline in digital symbol substitution (-1.51).

Clinical Relevance

Cardiology, Neurology

Where to find it

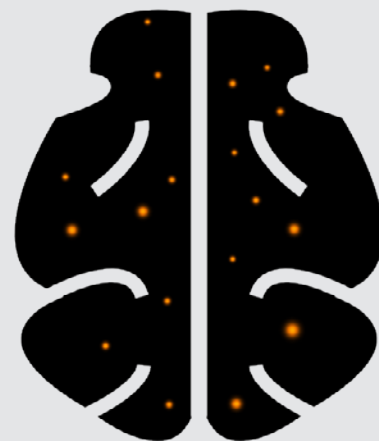


Stroke

September 2014 ;45(9):2568-74.

doi: 10.1161/STROKEAHA.114.005243.

Gilbert Gravino MD5



Genetic determinants of common epilepsies: a meta-analysis of genome-wide association studies

Aim of Paper

To identify risk loci associated with epilepsy through meta-analyses of genome-wide association studies for all epilepsy and the two largest clinical subtypes (genetic generalised epilepsy and focal epilepsy).

Summary

The study combined genome-wide association data from 12 cohorts of individuals with epilepsy and controls from population-based datasets. The study describes a new locus not previously implicated in epilepsy and provides further evidence about the genetic architecture of these disorders. The data suggests that specific loci can act pleiotropically raising risk for epilepsy broadly, or can have effects limited to a specific epilepsy subtype. Meta-analysis of the all-epilepsy cohort identified loci at 2q24.3, implicating SCN1A, and at 4p15.1, harbouring PCDH7, which encodes a protocadherin molecule not previously implicated in epilepsy. For the cohort of genetic generalised epilepsy, the investigators noted a single signal at 2p16.1, implicating VRK2 or FANCL. No single nucleotide polymorphism achieved genome-wide significance for focal epilepsy.

Details

8696 cases and 26 157 controls were included in the analysis. Controls were ethnically matched with cases. Individuals with epilepsy were categorized into genetic generalised epilepsy, focal epilepsy, or unclassified epilepsy. Standardised filtering was used to ensure quality control, and

imputation was used to account for different genotyping platforms across sites. At each site, investigators conducted a linear mixed-model association analysis for each dataset. The summary statistics were combined and fixed-effects meta-analysis of all epilepsy, focal epilepsy, and genetic generalised epilepsy was conducted. The genome-wide significance threshold was set at $p < 1.66 \times 10^{-8}$.

Clinical Relevance

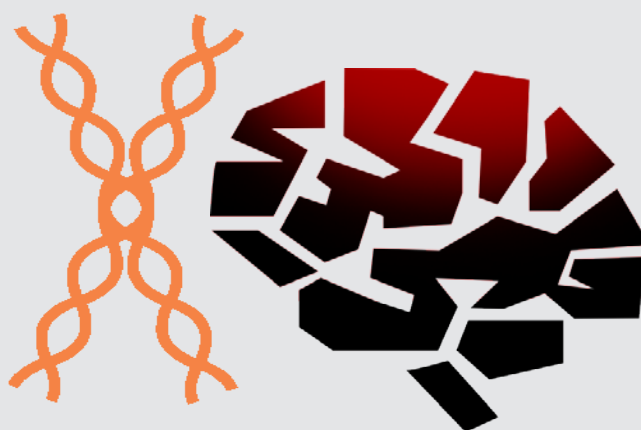
Neurology

Where to find it



Lancet Neurology
September 2014;13(9):893-903.
doi: 10.1016/S1474-4422(14)70171-1

Gilbert Gravino MD5



Aim of Paper

To determine which class of drug (dopamine agonists, monoamine oxidase B inhibitors [MAOBI] or levodopa) is best for initial treatment for early Parkinson's disease, in terms of the most effective long-term control of symptoms and best quality of life.

Summary

The study involved an open-label randomised trial, where patients newly diagnosed with Parkinson's disease were randomly assigned between levodopa-sparing therapy (dopamine agonists or MAOBI) and levodopa alone. Primary outcomes were the mobility dimension on the PDQ-39 quality-of-life scale (range 0-100, with 6 points defined as the minimally important difference) and cost-effectiveness. Researchers concluded that very small but persistent benefits are shown for patient-rated mobility scores when treatment is initiated with levodopa compared with levodopa-sparing therapy. Also, MAOBI as initial levodopa-sparing therapy was at least as effective as dopamine agonists.

Details

- 1620 patients were assigned to study groups (528 to levodopa, 632 to dopamine agonist, 460 to MAOBI).
- With 3-year median follow-up, PDQ-39 mobility scores averaged 1.8 points better in patients randomly assigned to levodopa than those assigned to levodopa-sparing therapy, with no increase or attrition of

benefit during 7 years observation.

- PDQ-39 mobility scores were 1.4 points better in patients allocated MAOBI than in those allocated dopamine agonists.
- EQ-5D utility scores averaged 0.03 better with levodopa than with levodopa-sparing therapy; rates of dementia (hazard ratio [HR] 0.81), admissions to institutions (0.86), and death (0.85) were not significantly different, but the upper CIs precluded any substantial increase with levodopa compared with levodopa-sparing therapy.
- 79 (28%) of 632 patients allocated dopamine agonists and 104 (23%) of 460 patients allocated MAOBI discontinued allocated treatment because of side-effects compared with 11 (2%) of 528 patients allocated levodopa.

Clinical Relevance

Neurology

Where to find it



Lancet

September 2014 27;384(9949):1196-205.
doi: 10.1016/S0140-6736(14)60683-8

Gilbert Gravino MD5



Rituximab for childhood-onset, complicated, frequently relapsing nephrotic syndrome or steroid-dependent nephrotic syndrome: a multicentre, double-blind, randomised, placebo-controlled trial

Aim of Paper

To investigate the efficacy and safety of Rituximab in children with frequently relapsing nephrotic syndrome (FRNS) and steroid-dependent nephrotic syndrome (SDNS).

Summary

- This is a multicentre, double blind, randomised, placebo-controlled trial at nine centres in Japan. A total of 48 patients underwent “treatment”, 24 patients received Rituximab and 24 patients were given a placebo.
- The median relapse-free period was significantly longer in the rituximab group than in the placebo group (Statistically significant).
- Ten patients in the Rituximab group and six in the placebo group had at least one serious adverse event (Not statistically significant)
- According to the authors rituximab is an effective and safe treatment for childhood-onset, complicated FRNS and SDNS.

Details

- Patients aged two years or older experiencing a relapse of FRNS or SDNS which had originally diagnosed as nephrotic syndrome when ages 1-18 years old were screened.
- Patients were randomly assigned to receive rituximab (375mg/m²) or placebo once weekly for 4 weeks.
- Patients, guardians, caregivers, physicians and individuals assessing

outcomes were masked to assignments.

- All patients received standard steroid treatment for the relapse at screening and stopped taking immunosuppressive agents by 169 days after randomisation.
- Patients were followed up for 1 year. The primary endpoint was the relapse-free period.

Relevance to undergraduates

Paediatric Nephrology, Rituximab

Where to find it

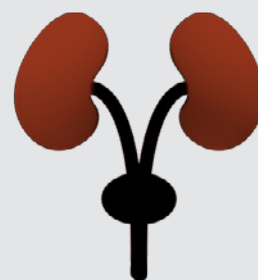


The Lancet

October 2014 4;384(9950):1273-81.

doi: 10.1016/S0140-6736(14)60541-9

Thomas Borg Barthet MD4



Physical Activity and Bone Mineral Accrual in Boys with Different Body Mass Parameters during Puberty: A Longitudinal Study

Aim of Study

Investigating the relationship between physical activity and bone mass index in boys with different body mass status in the pubertal years surrounding the growth spurt.

Summary

- The longitudinal study, utilised multilevel fixed effects regression models to assess the data gathered.
- It showed that moderate to vigorous exercise, vigorous and sedentary time had a significant effect only on femoral neck osteoporosis.
- Baseline underweight boys also had a greater chance of lower total bone mineral density (BMD) development in the future (2 year follow up). In underweight boys, lean bodyweight mass was the best predictor of BMD.

Details

- Subjects were divided into 4 BMI categories: underweight, normal weight, over weight, obese according to age related categories.
- Whole body Dual energy x-ray absorptiometry (DXA) scans carried out at baseline, 12 and 24 months, measuring total body (TB), lumbar spine (LS) and femoral neck (FN) BMD.
- Physical activity was measured by 7-day accelerometry.
- Several other measurements were recorded and calculated to assess possible relationships during baseline, 12 and 24 months.

Relevance to undergraduates

BMI & exercise in puberty, osteoporosis

Where to find it

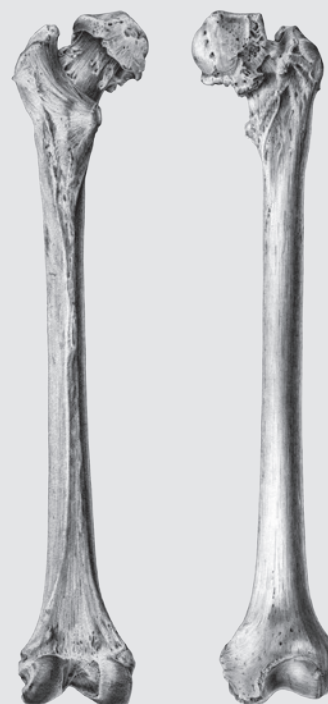


Public Library of Science.

October 03, 2014

doi: 10.1371/journal.pone.0107759

Dale Brincat MD4



Follow-up of Blood-Pressure Lowering and Glucose Control in Type 2 Diabetes

Aim of Paper

Analysing results of a 6-year follow-up after the ADVANCE factorial trial (Action in Diabetes and Vascular Disease: Preterax and Diamicron Modified Release Controlled Evaluation).

Summary

The advance trial had shown that the combination of perindopril and indapamide reduced mortality among patients with type 2 diabetes, but intensive glucose control, targeting a glycated hemoglobin level of less than 6.5%, did not. For this study, surviving participants were invited to participate in a post-trial follow-up evaluation. The mortality benefits that had been observed among patients originally assigned to blood-pressure-lowering therapy were attenuated but still evident at the end of follow-up. Also, there was no evidence that intensive glucose control during the trial led to long-term benefits with respect to mortality or macrovascular events.

Details

The study involved 8494 patients who participated in the post-trial follow-up, from the 11,140 patients who originally underwent randomization. Amongst these surviving participants were those who had previously been assigned to perindopril-indapamide or placebo and to intensive or standard glucose control.

- Between-group differences in blood pressure and glycated hemoglobin levels during the trial were no longer evident by the first post-trial visit.

- Reductions in the risk of death from any cause and of death from cardiovascular causes that had been observed in the group receiving active blood-pressure-lowering treatment during the trial were attenuated but significant at the end of the post-trial follow-up; the hazard ratios were 0.91 and 0.88, respectively.

- No differences were observed during follow-up in the risk of death from any cause or major macrovascular events between the intensive-glucose-control group and the standard-glucose-control group; the hazard ratios was 1.00 for both.

Clinical Relevance

Diabetes Mellitus, Cardiovascular Disease

Where to find it



The New England Journal of Medicine
October 2014 9;371(15):1392-406.
doi: 10.1056/NEJMoa1407963

Gilbert Gravino MD5



Endovascular Technique for Arterial Shunting to Prevent Intraoperative Ischemia

Aim of Paper

To investigate use of an endovascular intraoperative versus open surgical techniques to prevent hypoperfusion ischemic injury due to acute arterial obstruction or complex open vascular or endovascular procedures.

Summary

- Flow analysis of the 15 Endovascular shunts placed showed a flow capacity of 73% compared to a Pruitt-Inahara shunt.
- This study shows a new method of temporary blood shunting in connection to vascular procedures.

Details

- A total of 15 Endovascular shunts were deployed; 8 in complex endovascular aortic procedures, 3 in open aortic operations and 4 for acute limb ischemia.
- The Endovascular shunt was formed by connecting two introducer sheaths into each other, one positioned proximally and one distal to an arterial obstruction.
- The Endovascular shunt was used in patients considered to be at high risk for prolonged lower limb ischemia in conjunction with a vascular procedure were shunts created by open techniques were not considered to be practical.
- The shunts were functional in all patients and there was no shunt occlusion. Shunting time varied from 45 minutes to 8 hours.
- Post-operatively none of the patients exhibited clinical signs of reperfusion injury.

Relevance to undergraduates

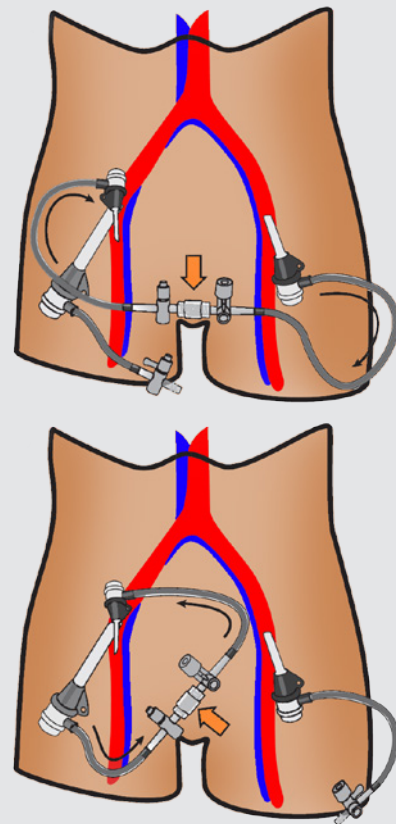
Vascular Surgery, New endovascular technique

Where to find it



European Journal of Vascular & Endovascular Surgery
August 2014 ;48(2):126-30.
doi: 10.1016/j.ejvs.2014.04.007.

Thomas Borg Barthet MD4



Mural Thrombus and the Progression of Abdominal Aortic Aneurysms: A Large Population-based Prospective Cohort Study

Aim of Paper

To investigate whether the relative size of intraluminal thrombus (ILT) in abdominal aortic aneurysms (AAA) is associated with AAA growth.

Summary

- This is a prospective Cohort Study, the sample size was 615 men aged 65-74 years old.
- This study suggests that there is a weak, yet significant correlation between ILT size and increased AAA growth rate.

Details

- The mean observation time was 1.78 years, and mean AAA size was 40.6mm.
- In the group with AAAs measuring 30-34 mm, 42% had ILT. In the group with AAAs measuring >64mm, presence of ILT increased to 100%.
- Univariate analysis showed relative ILT size, Aortic diameter, smoking history and diastolic blood pressure were significantly positively associated with growth rate. Diabetes Mellitus was significantly negatively associated with growth rate.
- After multivariate linear regression adjusting for potential confounders, relative ILT size remained significantly positively associated with growth rate of AAAs.

Relevance to undergraduates

Vascular Surgery, Abdominal Aortic Aneurysms, Intraluminal thrombosis

Where to find it



European Journal of Vascular & Endovascular Surgery
September 2014;48(3):301-7.
doi: 10.1016/j.ejvs.2014.05.014

Thomas Borg Barthet MD4



Arthroscopic surgery for degenerative tears of the meniscus: a systematic review and meta-analysis

Aim of Study

Conducting a meta-analysis to evaluate the efficacy of arthroscopic meniscal debridement when compared to non-operative or placebo treatment, in patients with knee pain with mild or no osteoarthritis.

Summary

- The meta-analysis found moderate evidence which indicates that arthroscopic meniscal debridement for degenerative meniscal tears in the knee offers no benefit over non-operative or placebo treatments in middle aged patients not affected by severe osteoarthritis.

- It suggests an initial trial of non-operative management as first line in such patients.

Details

- From the literature search seven randomised controlled trials met the inclusion criteria, which together summed up to 805 patients.

- When combined the effect of surgery failed to show significant or minimally important difference (MID) for long term functional outcomes.

- However, in the short term (<6 months) functional outcomes were significantly different but failed to exceed the threshold for MID.

- The MID is the smallest effect that an informed patient would perceive as valuable enough to justify a change in therapeutic management when weighing the anticipated benefits against the possible harms of an intervention.

- There was no pain score improvement difference between the two approaches both on long and short term.

Relevance to undergraduates

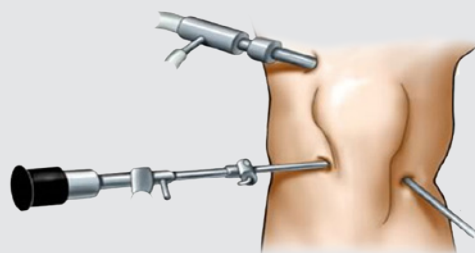
Orthopaedics, arthroscopic knee debridement

Where to find it



Canadian Medical Association Journal
October 7, 2014 vol. 186 no. 14
doi: 10.1503/cmaj.140433

Dale Brincat MD4



Meta-analysis of peak wall stress in ruptured, symptomatic and intact abdominal aortic aneurysms

Aim of Paper

- This paper evaluates whether Peak wall stress (PWS) measured by finite element analysis (FEA) from computed tomography scans (CT) can be used to predict the risk of rupture of an abdominal aortic aneurysm (AAA).

Summary

- Systematic review using the medline database was carried out.
- Nine studies assessing 348 individuals were identified and used in the review. Results from 204 asymptomatic intact and 144 symptomatic or ruptured AAAs showed that PWS was significantly greater in the symptomatic/ruptured AAAs compared to asymptomatic intact AAAs.

Details

- Currently elective repair of AAA through open or endovascular methods is indicated to prevent potential catastrophic rupture. This is based on previous studies which showed that interventions on aneurysmal diameters less than 5.5cm do not influence aneurysmal-related mortality.
- The authors challenge the use of aneurysmal diameter in predicting outcome by quoting aneurysmal rupture occurring in diameters less than 4.4cm.
- Utilising receiver operating characteristic (ROC) curves for predicting rupture showed PWS to have higher sensitivity, specificity and accuracy (94%, 81% and 85% respectively) at a PWS

threshold of 44N/cm² as compared to diameter at a 55cm threshold (81%, 70% and 73% respectively).

- PWS may direct clinical decision making in the management of AAAs.

Relevance to Undergraduates

Surgery, Radiology.

Where to find it



British Journal of Surgery.
October 2014 ;101(11):1350-7; discussion 1357.
doi: 10.1002/bjs.9578

Gianluca Gonzi MD5



Incidence of and risk factors for incisional hernia after abdominal surgery

Aim of study

- The aim of this study was to define the incidence of incisional hernia following abdominal surgery and identify the associated risk factors.

Summary

- A prospective observational study of 4305 was carried out between 2009-2011.
- Strict inclusion and exclusion criteria were defined by the authors.
- Patients were followed up at regular three month intervals over a minimum of 180 days. Assessment involved physical examination by the surgeon and radiological assessment in certain cases with ultrasonography and abdominal CT.
- Predisposing factors to IH defined as categorical variables were evaluated by Chi-square analysis.
- Incidence rates assessed through Kaplan-meier method.

Details

- Incisional hernia is a common post-operative complication in abdominal surgery with life-threatening complications including bowel strangulation reported to occur in 2% of cases. Also recurrence following post-operative repair is reported to be as high as 14-63%.
- Authors state no large prospective studies carried out to accurately define the incidence of IH or identify possible risk factors.
- Defined incidence of IH is 5.2% following 1 year and 10.3% following 2 years.

- Associated risk factors include:
Pre-operative: BMI >25Kg/m², contaminated or dirty wounds, female sex, thick subcutaneous tissue.
Intra-operative: Midline incision. Fascial closure technique and materials chosen had no significant effect on IH development.
Post-operative: Surgical Site infection.
- Surgical site infection was identified as a significant risk factor for development of IH with greater risk in deep surgical site infections.
- Strict post-operative wound care may therefore prevent the development of incisional hernia.

Relevance to undergraduates

Surgery, epidemiology

Where to find it



British Journal of Surgery.
October 2014;101(11):1439-47.
doi: 10.1002/bjs.9600

Gianluca Gonzi MD5



Lymphaticovenular anastomosis to prevent cellulitis associated with lymphedema

Aim of Study

- The aim of this study was to retrospectively evaluate the impact of operative treatment of lymphoedema by lymphaticovenular anastomosis on recurrent cellulitis.

Summary

- Retrospective review of medical records of patients which underwent lymphaticovenular anastomosis in a single tertiary centre from 2005 to 2012. Telephone interviews were conducted to assess frequency of pre-operative cellulitis and post-operative cellulitis.
- Recognised Diagnostic criteria was used to define lymphoedema and episodes of cellulitis.
- In a study of 95 patients the mean number of episodes of cellulitis in the year preceding surgery was 1.46 compared with 0.18 in the year after surgery. This was shown to be statistically significant.

Details

- Lymphoedema can be divided into primary and secondary causes (such as secondary to trauma or tumour invasion.) The complications include aesthetic, recurrent cellulitis and secondary malignant change to lymphangiosarcoma (Stewart-trevor syndrome).
- Management of lymphoedema can be divided into non-operative and operative approaches. Non-operative approaches include complex physiotherapy (CPT) to simulate lymphatic drainage and long-term antibiotic prophylaxis to prevent recurrent

cellulitis.

- Operative approaches include microsurgical creation of lymphatic-venous anastomosis which has been shown to considerably reduce dependent limb oedema.
- This study highlights how this surgical technique significantly reduces the cellulitis rate.

Relevance to undergraduates

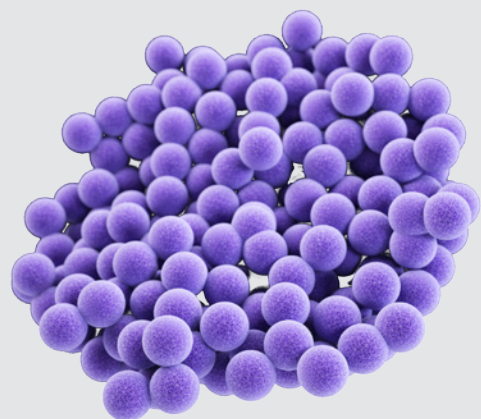
Surgery, infectious disease

Where to find it



British Journal of Surgery.
October 2014;101(11):1391-6.
doi: 10.1002/bjs.9588

Gianluca Gonzi MD5



Genetic and Environmental Risk Assessment and Colorectal Cancer Screening in an Average-Risk Population

Aim of study

Assessing the value of individualised genetic and environmental risk assessment (GERA) in colorectal cancer (CRC) screening, specifically to evaluate if it would improve adherence to screening in average-risk persons.

Summary

- The randomised trial study found no significant difference between using GERA and usual hospital guidelines in the primary outcome of adherence to CRC screening within 6 months.
- Therefore, the personalised information provided by GERA does not seem to be effective in its aim of motivating behavioural change to promote favourable healthcare behaviour.

Details

- The study is a 2-group, randomised, controlled trial carried out in four primary care practice involving 783 participants at average risk for CRC not adherent to a screening at the time.
- Participants were randomly assigned to either usual care or GERA (a cancer susceptibility assessment based on both genetic and environmental factors). Subsequently, the primary outcome of CRC screening within 6 months was measured.
- Overall no statistically significant difference was observed between usual care (35.7%) and a single personalised GERA (33.1%). After adjustment for baseline factors, odds ratio for screening completion

for GERA versus usual care was 0.88 (95% CI, 0.64 to 1.22).

- Furthermore, in the GERA group no significant difference in the primary outcome was observed between high and average risk subgroups (OR, 0.75 [CI, 0.39 to 1.42]).

Relevance to undergraduates

Colorectal cancer screening, value of individualised GERA

Where to find it



Annals of Internal Medicine.
October 2014 ;161:537-545.
doi:10.7326/M14-0765

Dale Brincat MD4



Randomized clinical trial comparing self-gripping mesh with suture fixation of lightweight polypropylene mesh in open inguinal hernia repair

Aim

The aim of this clinical trial was to evaluate whether the use of non-suture fixation self-gripping meshes employed in open inguinal hernia repair diminished post-operative chronic pain compared with standard suture fixation of polypropylene mesh.

Summary

- 604 Adults undergoing standard lichtenstein repair for primary inguinal hernia were randomised into group receiving non-suture self-grip mesh and group with suture-fixaiton of mesh.
- Computer generated randomisation at the time of the procedure.
- Follow up carried out by questionnaire and telephone call delievered at day 7 and 3 months post-op. Physical examination of the patient was carried out by the operating surgeon 1 month post-op and 1 year post-op.
- Post-operative pain was assessed using standardised visual analogue pain score.

Details

- Chronic pain following inguinal hernia repair is common reported in some studies to be as high as 34%. The aetiology being uncertain.
- Self-gripping meshes adhere to the tissues at the posterior wall of the inguinal canal and therefore do not require suture fixation.
- The hypothesis being that suture fixation may potentiate postoperative pain by compression or inadvertent damage to

the inguinal nerves.

- This randomised clinical trial shows that self-gripping meshes do diminish early-post-operative pain but did not significantly diminish late post-operative pain at 3 months post-op.
- Self-gripping meshes were shown to be quicker by 7.6 minutes which was statistically significant.

Relevance to undergraduates

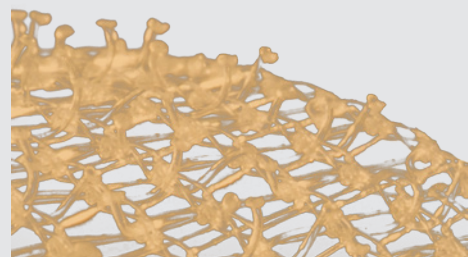
Surgery, Inguinal hernia repair.

Where to find it



British Journal of Surgery.
October 2014;101(11):1373-82; discussion 1382.
doi: 10.1002/bjs.9598.

Gianluca Gonzi MD5



Impact of mechanical bowel preparation on survival after colonic cancer resection

Aim of Study

- Assessing the long term effects of mechanical bowel preparation (MBP), specifically the survival rate after colonic cancer resections.

Summary

- Register analysis indicated a better cancer-specific and overall survival in the cohort during the 10 year follow up period.
- 17.9% of patients in the MBP group and 22.5% of the no-MBP group had cancer recurrence (P=0.093).
- 10-year cancer-specific survival rate fell from 84.1% in MBP group to 78.0% in the no-MBP group (P=0.019).

Details

- MBP use is widespread in the pre-operative setting, such as polyethylene glycol.
- Previous randomised studies and meta-analyses did not find that MBP before colonic resection had a significant effect on post-operative outcomes and complications.
- The authors sought to investigate the long term effects on colonic cancer recurrence, by following 1343 patients in a randomised trial for 10 years (n=839 after exclusion).
- Results of this research supports the use of preoperative MBP in colonic cancer resection as it was shown to improve the 10-year survival rate.

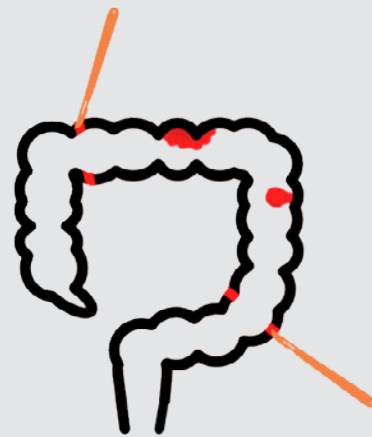
Relevance to undergraduates

Mechanical bowel preparation, colonic cancer resection, survival rate

Where to find it 

British Journal of Surgery
November 2014 Volume 101, Issue 12,
pages 1594–1600,
DOI: 10.1002/bjs.9629

Dale Brincat MD4



The 'Swallow Tail' Appearance of the Healthy Nigrosome – A New Accurate Test of Parkinson's Disease: A Case- Control and Retrospective Cross-Sectional MRI Study at 3T

Aim of Paper

- This paper evaluates the use of 3T MRI Substituted-weighted imaging (SWI) in a case-control and retrospective cross-sectional study to detect nigrosome degeneration. This may provide an in-vivo diagnosis for Parkinson Disease through the detection of the absence of what the authors adequately christen as the "Swallow-tail Sign".

Summary

- Prospective Case-Control Study with 10 parkinson disease patients fulfilling the UK brain bank criteria for parkinson disease were recruited. Nine controls were age and gender matched from spouses and friends. Both Cases and controls underwent standard 3T using a high resolution substituted weighted imaging sequence.
- Retrospective Cross-sectional study carried out in centre with routine 3T HR-SWI in neurological scans. Cohort of 90 cases with 9 diagnosed parkinson disease and 81 with clinical diagnoses other than parkinson disease without any documented movement disorder symptoms suggestive of parkinsonism.

Details

- Cases with intact nigrosomes revealed dorsolateral hypointensity within the pars compacta of the substantia nigra in the arrangement similar to that of the tail of a swallow and was termed the "Swallow Tail Sign" by the authors.
- Affected individuals with nigral degeneration lost the dorsolateral

hypointensity within the substantia nigra and hence absence of the swallow tail sign could be used as an in-vivo marker for nigral degeneration.

- Absent swallow tail sign was shown to have a sensitivity of 100% and a specificity of 95% for parkinson disease.

Relevance to Undergraduates

Neurology, Radiology.

Where to find it



Public Library of Science.
April 2014 7;9(4):e93814.
doi: 10.1371/journal.pone.0093814.
eCollection 2014. (open access)

Gianluca Gonzi MD5



Ebola Virus Disease in West Africa - The first 9 months of the Epidemic and Forward Projections

Aim of Paper

Analysis of Ebola cases using a detailed subset of data collected in Guinea, Liberia, Nigeria, and Sierra Leone as of September 2014.

Summary

WHO declared the Ebola Virus Disease (EVD) epidemic to be a “public health emergency of international concern” on 8th August 2014. A total of 4507 probable and confirmed Ebola cases had been reported by September 2014, which included 2296 deaths. The study predicts that assuming no change in the control measures, the number of confirmed and probable cases by 2nd November 2014 will be 5740 in Guinea, 9890 in Liberia, and 5000 in Sierra Leone (exceeding 20,000 in total). This means that the number of cases and deaths from EVD is expected to increase from hundreds to thousands per week in the coming months, unless drastic improvements are made in control measures.

Details

The study analyzed 3343 confirmed and 667 probable Ebola cases collected in Guinea, Liberia, Nigeria, and Sierra Leone;

- Most patients are 15 to 44 years of age (49.9% male).
- Estimated case fatality rate among persons with known clinical outcome of infections is 70.8%.
- The course of infection is similar to that reported in previous outbreaks of EVD.
- Estimated current reproduction

numbers (R), estimated basic reproduction numbers (R_0) based on initial periods of exponential growth, and the corresponding doubling times (DT) are:

Guinea (R)=1.81; (R_0)=1.71; DT=15.7 days

Liberia (R)=1.51; (R_0)=1.83; DT=23.6 days

Sierra Leone (R)=1.38; (R_0)=2.02; DT=30.2 days

Clinical Relevance

Infectious Diseases

Where to find it



The New England Journal of Medicine
October 2014 16;371(16):1481-95.
doi: 10.1056/NEJMoa1411100

Gilbert Gravino MD5



First laugh, then think

Nasal packing with strips of cured pork as treatment for uncontrollable epistaxis in a patient with Glanzmann thrombasthenia

Discovery

Humphreys, Saraiya, Belenky and Dworkin discovered the treatment of “uncontrollable” nosebleeds using the method of nasal packings with strips of cured pork, winning the Ig Nobel Prize 2014.

Summary

The use of cured salted pork to pack the nasal vaults and create a nasal tampon successfully stopped nasal haemorrhage in a prompt and effective manner for a patient with Glanzmann thrombasthenia. This is a rare platelet disorder causing potentially life-threatening nasal haemorrhage.

Details

The study presents a case-report of a known case of Glanzmann thrombasthenia in a 4 year old child who had two episodes

Best taken with a pinch of salt



This section is inspired by the concept of the Ig Nobel Prize which helps spur people's interest in science. It is a parody of the actual Noble Prize, which gives awards annually to “honour achievements that first make people laugh, and then make them think”.

of life-threatening epistaxis. These were treated with cured pork nasal packing due to special circumstances. In both cases bleeding stopped within 24 hours and the child was discharged 72 hours after treatment.

Clinical Relevance

ENT, humor

Where to find it



Annals of Otolaryngology & Rhinology & Laryngology
November 2011 ;120(11):732-6.

Gilbert Gravino MD5

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NEW

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**Takes
less
than**

