

## ORAL PRESENTATIONS 4A MISCELLANEOUS

### **O89 DEVELOPMENT OF A GLOBAL RESEARCH REGISTRY: IMPROVING COMPLIANCE WITH THE DECLARATION OF HELSINKI 2013**

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**Introduction:** There is significant evidence that many studies with inconvenient or negative findings remain unpublished. This is despite the Declaration of Helsinki 2013 stating that: Every research study involving human subjects must be registered in a publicly accessible database. Such publication bias skews the research base; as a research community we have a duty to help find a solution. We aimed to design and develop a research registry to address this issue.

**Method:** Items incorporated into the registry were based on the WHO minimum data set. The registry developed links with the International Journal of Surgery, aiming to ensure registration prior to research submission. Importantly however, we also permit retrospective registration. Quality control measures were instituted, including a data curation policy and setting of quality indicators based on Austin Bradford-Hill's key questions of a scientific paper.

**Result:** The Research Registry ([www.researchregistry.com](http://www.researchregistry.com)) launched in February 2015 as an open-access and free-to-use service. To date over 450 studies are registered, with over 1.5 million patients, from over 50 countries; the majority were previously unregistered. The site has now been endorsed by the IDEAL collaborative, and with refinement of registration forms we have seen an improvement in overall registry quality, with median quality score rising from 33% to 85%.

**Conclusion:** The ResearchRegistry.com has facilitated registration of many studies that otherwise would not have been. It will evolve with time to meet the needs of the scholarly community; we ask all to encourage use of this service to benefit future generations and ourselves.

#### **Take-home message:**

Despite the Declaration of Helsinki 2013 stating that: Every research study involving human subjects must be registered in a publicly accessible database; many studies remain unregistered. This may be in part due to limitations of current registration platforms, so we present the ResearchRegistry.com: a new open-access, free-to-use, global registry with immediate registration; designed to meet the needs of the research community.

### **O90 THE MANAGEMENT OF PROXIMAL PAEDIATRIC SIALOLITHIASIS: GLAND PRESERVING SURGERY**

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**Introduction:** Around 3% of sialolithiasis occurs in children. Adults with proximal submandibular sialoliths are effectively managed with sialoendoscopy, with or without intraoral stone release. The preserved submandibular glands have been shown to retain their salivary secretion rate. Most paediatric submandibular sialoliths are small and distal; they are managed with sialoendoscopy alone. Proximal (proximal duct, hilum, intraparenchymal duct) sialoliths in the paediatric population can occur. Their management is less clear, traditionally resorting to gland excision. We report the outcomes of gland-preserving surgery for paediatric proximal submandibular sialoliths.

**Method:** We retrospectively reviewed all the salivary gland stone releases performed on children < 16 years-old at a tertiary referral centre between April 2013 and April 2015. Challenging salivary stones are referred to this tertiary centre for further management. All the children were routinely followed up and had a telephone follow-up.

**Result:** 8 children underwent treatment for sialolithiasis under general anaesthetic. They were all referred from distant secondary care hospitals with confirmed proximal submandibular sialoliths. All the stones were successfully extracted using gland-preserving techniques; sialoendoscopy with basket retrieval +/- microdrill fragmentation, or intra-oral stone release. All the patients' were symptom free at routine and telephone follow-up (range 4-20months) with excellent patient satisfaction results. One patient developed a ranula which was successfully managed under local anaesthetic in the outpatient clinic.

**Conclusion:** Gland-preserving techniques are safe and effective as a treatment for proximal paediatric submandibular gland stones. We have produced a treatment protocol which highlights the suggested procedure depending on the exact site of the stone.

#### **Take-home message:**

Gland-preserving techniques are safe and effective as a treatment for proximal paediatric submandibular gland stones.

## **091 SCREENING FOR DELAYED CEREBRAL ISCHAEMIA IN ANEURYSMAL SUBARACHNOID HAEMORRHAGE: AN INTERNATIONAL SURVEY**

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**Introduction:** Delayed cerebral ischaemia (DCI) is a significant cause of morbidity and mortality in aneurysmal subarachnoid haemorrhage (aSAH). Radiological techniques including Transcranial Doppler (TCD), Computer Tomography Angiography (CTA) and Digital Subtraction Angiography (DSA) are used in DCI screening; however, there is no consensus about how best to use them.

**Method:** We conducted an international survey of DCI screening strategies used in aSAH amongst members of the Congress of Neurological Surgeons, British Society of Neuroradiologists, European Society of Neuroradiologists and the Australian and New Zealand Interventional Neuroradiology Collaborative. Data from 371 respondents from 32 countries were analysed.

**Result:** The most common screening technique was daily TCD, reported by 59% (220/371). Less than daily TCD was reported by 3% (11/371). Use of CTA or DSA at day 5 was reported by 16% (61/371) and 16% (59/371) respectively. Other screening options included Computer Tomography Perfusion (13), Electroencephalography (1), Near Infrared Spectroscopy (1) and Single-Photon Emission Computer Tomography (1). 20% (73/371) did not use any screening strategy. Amongst British respondents, 59% (24/41) used no screening strategy and use of daily TCD, less than daily TCD, CTA and DSA were lower at 20% (8/41), 7% (3/41), 7% (3/41) and 15% (6/41) respectively.

**Conclusion:** Screening for DCI is subject to variability in practice internationally involving costly and risky investigations. Moreover, the relationship between DCI screening and aSAH outcome is unclear. We propose a trainee-led multicentre UK-based cohort study to explore the association between DCI screening and aSAH outcome to pave the way to a clinical trial.

### **Take-home message:**

The methods used to screen for delayed cerebral ischaemia after aneurysmal subarachnoid haemorrhage varies greatly internationally. A cohort study is needed to establish the relationship between the screening method used and the aneurysmal subarachnoid haemorrhage outcome.

## **092 TENDON CELL ATTACHMENT, PROLIFERATION AND DIFFERENTIATION ON ROUGHENED, HYDROXYAPATITE AND SILICON-SUBSTITUTED HYDROXYAPATITE SUBSTRATES**

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**Introduction:** Direct patellar tendon attachment to metal is used for extensor mechanism reconstruction following massive endoprosthetic replacement for osteosarcomas of the proximal tibia. HA and Si-HA coatings enhance MSC and osteoblast activity, and promote osteogenic differentiation. This study hypothesised that HA and Si-HA coatings will promote tendon cell proliferation and TSC osteogenic differentiation in vitro.

**Method:** Sandblasted titanium discs were electrochemically coated with HA and Si-HA. Surface roughness of the substrates was measured using 3D optical profilometry. Roughened, HA and Si-HA substrates were seeded with tendon cells. Cell morphology was assessed and AlamarBlue®, deoxyribonucleic acid and alkaline phosphatase assays performed at 3, 7 and 14 days.

**Result:** The uncoated roughened surface had the lowest Ra (4891nm, 95% CI 4830-4930) compared with HA (5032nm, 95% CI 4844-5348) and Si-HA (6371nm, 95% CI 5014-6969) substrates. Si-HA Ra Vs. roughened Ra was significantly increased ( $p=0.009$ ). At day 14, normalised AlamarBlue® activity on roughened and HA surfaces was significantly higher than on Si-HA ( $p<0.05$  in both cases). Osteogenic differentiation did not occur on any of the substrates; normalised alkaline phosphatase activity progressively declined from day 3 to 14.

**Conclusion:** Tendon cells detected changes in surface roughness on the electrochemically coated discs with improved proliferation on less rough substrates. Alterations in surface characteristics when developing tendon-tissue engineered constructs should be considered before seeding cells. TSCs on electrochemically deposited HA and Si-HA have potential use in musculoskeletal repair. Abbreviations: HA - hydroxyapatite, Si-HA - silicon-substituted hydroxyapatite, MSC - mesenchymal stem cell, TSC - tendon stem cell, Ra - average surface roughness.

### **Take-home message:**

Alterations in surface characteristics when developing tendon-tissue engineered constructs should be considered before seeding cells. Tendon stem cells on electrochemically deposited hydroxyapatite and silicon-substituted hydroxyapatite have potential use in musculoskeletal repair.

## **093 NOT PRESENTING**

#### **094 UNCONTROLLED SECONDARY HYPERPARATHYROIDISM: A RISK FACTOR IN THE DEVELOPEMENT OF ENCAPSULATING PERITONEAL SCLEROSIS**

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**Introduction:** Encapsulating peritoneal sclerosis (EPS) is a rare but devastating complication of prolonged peritoneal dialysis (PD) exposure. It is characterised by extensive thickening, calcification and peritoneal fibrosis and a pathognomonic cocoon ultimately presenting with life threatening bowel obstruction. The disease's pathogenesis remains poorly understood but there is a potential causative role for abnormalities in calcium metabolism and deposition. We hypothesise that EPS patients may have aberrant bone mineral metabolic processes that may ultimately contribute to EPS pathogenesis. Aim: To compare bone mineral metabolism in PD patients that developed EPS with matched non-EPS long-term PD patients (controls).

**Method:** Four-monthly serum levels of calcium, phosphate, parathyroid hormone and alkaline phosphatase (ALP) from PD onset until cessation were retrospectively collected from 47 EPS and 45 control patients. Linear mixed model and logistic regression analysis was performed (SPSS).

**Result:** EPS patients had higher mean calcium (2.44 vs. 2.37 mmol/L) and ALP (214 vs. 126 IU/L) levels compared with controls ( $p=0.006$  and  $p=0.018$  respectively). Logistic regression analysis demonstrated that high serum calcium and phosphate levels were associated with a 4.5 and 1.7 fold increase in EPS development risk respectively.

**Conclusion:** High levels of calcium and phosphate in patients on PD highlight patients at risk of EPS development. This may be subsequent to an imbalance of pro-calcifying factors and calcification inhibitors promoting peritoneal calcification. This leads to increased peritoneal stiffness, a potential second trigger, causing unregulated fibrosis with potential subsequent EPS development. Improved management of secondary hyperparathyroidism during PD may ultimately diminish the risk of EPS development.

#### **Take-home message:**

Improved management of secondary hyperparathyroidism during PD may ultimately diminish the risk of EPS development.

#### **095 BEST SUPPORTIVE MANAGEMENT FOR ADULTS REFERRED WITH TONSILLOPHARYNGITIS—THE BESMART PROJECT PHASE ONE: MULTICENTRE OBSERVATIONAL STUDY**

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**Introduction:** Tonsillopharyngitis is the most common ENT emergency admission, with 74,092 episodes recorded in England in 2013-2014. This represents over £51.5million in NHS expenditure. Despite this, there is a surprising paucity of evidence addressing the supportive management of tonsillopharyngitis in secondary care. We therefore set up a multi-phased project, beginning with multicentre retrospective observational study.

**Method:** Work was coordinated through our trainee research collaborative. The project was registered at six participating institutions and cases were scrutinised for inclusion. Anonymised data were captured on consensus proformas and spreadsheets, followed by statistical analysis ( $\alpha=0.05$ ).

**Result:** Data collection is ongoing. Analysis of 151 patients (three centres) is presented here with full results to follow (projected  $n>200$ ). Female:male ratio was 2:1 and median age was 2 years. There was no significant association between length of stay (LoS) and age ( $p=0.085$ ); gender ( $p=0.468$ ); seeing an ENT doctor directly ( $p=0.838$ ) or the seniority of the doctor initially seen ( $p=0.174$ ). Some often prescribed escalation medications were not associated with a shorter LoS, such as codeine ( $p=0.153$ ) and corticosteroid ( $p=0.876$ ). Interestingly, longer LoS was associated with administration of NSAIDs ( $p=0.002$ ), topical benzydamine ( $p<0.001$ ) and intravenous fluid ( $p<0.001$ ). Fluid prescription was significantly associated with tachycardia on admission ( $p=0.030$ ), whereas NSAID and benzydamine prescriptions were not ( $p=0.992$  and  $p=0.797$  respectively). This may indicate either prescribers' response to patient condition or variable prescribing practices.

**Conclusion:** Preliminary results yield valuable insights into current practice. Often prescribed therapies such as corticosteroid may not be as effective as previously believed. Further analysis and prospective studies are required.

#### **Take-home message:**

Whilst tonsillopharyngitis is an extremely common presentation, the best management remains unclear. Our paper provides valuable insights into current practice and as more data becomes available, an insight into best practice.

## **O96 A SYSTEMATIC REVIEW OF THE METHODOLOGICAL AND REPORTING QUALITY OF CASE SERIES IN SURGERY**

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**Introduction:** Case Series are an important and common study type. Currently no guideline exists for reporting case series and there is evidence of key data being missed from such reports. We propose to develop a reporting guideline for case series using a methodologically robust technique. The first step in this process is a systematic review of literature relevant to the reporting deficiencies of case series.

**Method:** A systematic review of methodological and reporting quality in surgical case series was performed. The electronic search strategy was developed by an information specialist and included MEDLINE, EMBASE, Cochrane.

Method Register, Science Citation index and Conference Proceedings Citation index, from the start of indexing until 5th November 2014. Independent screening, eligibility assessments and data extraction was performed. Included articles were then analysed for five areas of deficiency: failure to use standardised definitions, missing or selective data, transparency or incomplete reporting, whether alternate study designs were considered and other issues.

**Result:** The database searching identified 2,205 records. Through the process of screening and eligibility assessments 92 articles met inclusion criteria. Frequency of methodological and reporting issues identified was: failure to use standardised definitions (57%), missing or selective data (66%), transparency or incomplete reporting (70%), whether alternate study designs were considered (11%) and other issues (52%).

**Conclusion:** The methodological and reporting quality of surgical case series needs improvement. Our data shows that clear evidence-based guidelines for the conduct and reporting of a case series may be useful to those planning or conducting them.

### **Take-home message:**

The methodological and reporting quality of surgical case series needs improvement and clear evidence-based guidelines for the conduct and reporting of a case series may be useful to those planning or conducting them.

## **O97 IS WEEKEND SURGERY A RISK FACTOR FOR POST-TONSILLECTOMY HAEMORRHAGE?**

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**Introduction:** Tonsillectomy is a common, low-risk procedure. Post-tonsillectomy haemorrhage remains the most serious complication and can be life-threatening. Suggested risk factors for post-tonsillectomy haemorrhage include increasing age, males and known coagulopathy. Recent nationwide studies in the UK and US have identified an increased morbidity and mortality for both high-risk and low-risk elective surgery carried at the weekend. New UK government initiatives are resulting in increasing elective tonsillectomies being performed at the weekend. We aim to identify whether elective tonsillectomies performed at the weekend have an increased rate of post-tonsillectomy haemorrhage.

**Method:** We retrospectively reviewed routinely collected data in a 3-year period at a District General Hospital where weekday and weekend elective tonsillectomy lists are performed. The same group of primary surgeons performed procedures in the two groups. All patients who developed a post-tonsillectomy haemorrhage were identified and the day of original operation was noted. Statistical significance was performed using a chi-squared test, with corrections for age, gender and tonsillectomy technique (coblation or dissection).

**Result:** Between 2010 and 2013, 2208 elective tonsillectomies were performed on a weekday, 141 were performed on the weekend. 104 (4.71%) post-tonsillectomy haemorrhages were recorded on patients who underwent their procedure on a weekday, 10 (7.09%) on the weekend ( $p = 0.20$ ). 52 (2.21%) patients required re-intubation for haemorrhage arrest in theatres.

**Conclusion:** Our study suggests that there is no difference in the rate of post-tonsillectomy haemorrhage regardless of whether the procedure is performed on a weekday or weekend.

### **Take-home message:**

There is no difference in the rate of post-tonsillectomy haemorrhage regardless of whether the procedure is performed on a weekday or weekend.

## **O98 SUPPORT FOR REPORTING GUIDELINES IN SURGICAL JOURNAL NEEDS IMPROVEMENT: A SYSTEMATIC REVIEW**

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**Introduction:** In the era of evidence-based medicine, the underlying quality of research is critical. Yet previous studies have shown reporting quality to be lacking in the field of surgery. Reporting guidelines are an important tool for authors to optimize the reporting of their research. Therefore, the study aim was to analyse the frequency and strength of recommendation for available reporting guidelines within surgical journals.

**Method:** A systematic review of the 198 journals within the Journal Citation Report 2014 (surgery category) published by Thomson Reuters was undertaken. The online guide for authors for each journal was screened by two independent groups and results compared. Data regarding the presence and strength of recommendation to use reporting guidelines was extracted.

**Result:** 193 journals were included (following exclusion of duplicate journal names). These had a median impact factor of 1.526 (range 0.047 to 8.327), with 34,036 articles published in total over the two-year window 2012-2013. 62% of surgical journals made no mention of reporting guidelines within their guidance for authors. Of the 38% that did mention them, only 14% required the use of all relevant reporting guidelines. The most frequently mentioned reporting guideline was CONSORT (46 journals).

**Conclusion:** The mention of reporting guidelines within the guide for authors of surgical journals needs improvement. Journals should uniformly endorse relevant reporting guidelines and update their instruction to authors to reflect this. This will improve methodology and quality of reporting, raise the level of scholarly discourse between authors and the scientific community and reduce frustration amongst readers.

**Take-home message:**

The mention of reporting guidelines within the guide for authors of surgical journals needs improvement. There is need for authors, reviewers and editors to work together to ensure that surgical research is reported in line with the relevant reporting guidelines.

**099 WORKFORCE PLANNING: A 10 YEAR OVERVIEW OF CONSULTANT GENERAL SURGEON POSTS ADVERTISED AND DECLARED SPECIALTY REQUIREMENTS IN THE UNITED KINGDOM**

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**Introduction:** The implementation of the European Working Time Directive (EWTD) in 2009 resulted in less training time in General Surgery, however the quality of training is thought to have improved. There has been an increasing number of trainees; this year rose from 140 to 190+ National Training Numbers. Speculation would suggest there is a trend in the reduction of consultant general surgeon posts advertised and an increase in demand for surgeons with special interests.

**Method:** We aim to quantify if there has been a significant decrease in General Surgery including Breast and Vascular consultant posts in the United Kingdom between 2000 and 2010, and whether those consultant posts advertised require a sub-specialisation. A retrospective review of job adverts from every British Medical Journal (BMJ) published for twelve months in 2000 and 2010 was carried out.

**Result:** It was a requirement for all Trusts to advertise consultant posts in the BMJ until 2013. In 2000 there were 416 jobs advertised for General Surgical (GS) Specialties. Of those, 112 jobs (26.9% of total GS) were advertised as General/GI Surgeon required. In 2010 there were 219 Consultant posts in General Surgery and 12 jobs (5.5%) were advertised as General/GI Surgeon. This equates to a 47.4% reduction in consultant posts advertised between 2000 and 2010. **CONCLUSION:** There has been a decreasing number of Consultant posts available in General Surgery. In addition, the majority of posts advertised now require a sub-specialisation or interest. The implications of this are yet to be realised by both doctors and politicians.

**Take-home message:**

Fewer jobs, more surgeons. Does the job market trend negate the General Surgeon?

**0100 A META-ANALYSIS INVESTIGATING THE ROLE OF SIMPLE TRANSFUSION IN PREVENTING SICKLE CELL RELATED COMPLICATIONS IN PATIENTS WITH SICKLE DISEASE UNDERGOING SURGERY**

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**Introduction:** Debate surrounds the role of preoperative transfusion in patients with sickle cell disease (SCD). Questions remain regarding whether simple transfusions prevent SCD related complications such as chest pain, other pain crises and neurological episodes. The aim is to meta-analyse the literature to see whether simple transfusion reduces the risk of SCD related complications compared to patients who don't have transfusions preoperatively.

**Method:** Electronic databases were searched from 1950 to August 2015. Conventional meta-analytical techniques were used. Quality assessment of the studies was performed.

**Result:** Eight articles reported on SCD related complications. Most studies were non-randomised but of good quality [Range 7-9/9 on Newcastle Ottawa Scale]. There were 334 patients who had simple transfusion and 246 patients who did not have transfusion. Patients who had simple transfusions had fewer chest pain episodes but this was not statistically significant [random effects model: RR=0.52, 95% CI(0.23,1.17),z=-1.58,p=0.1]; no significant heterogeneity [Q=5.94,df=5,p=0.31,I<sup>2</sup>=16]. Patients who had simple transfusions had fewer episodes of SCD related pain episodes and this was borderline statistically significant [random effects model: RR=0.52,95% CI(0.26,1.00),z=-1.94,p=0.06]; no significant heterogeneity [Q=1.12,df=4,p=0.89,I<sup>2</sup>=0]. There was no significant difference in respect to neurological complications.

**Conclusion:** Patients with sickle cell disease who undergo surgery and have simple transfusions may benefit by having less risk of developing post-operative pain crises. Studies were of good quality but the low numbers of complications involved means further RCTs are required. Stratification of sickle subtypes, percentage of normal red blood cells and specific surgical procedures are required to establish the role of transfusions pre-operatively.

**Take-home message:**

There may be a role for transfusing patients with sickle cell disease before surgery to prevent complications. Larger RCTs with surgical and sickle cell disease subclassification is warranted to establish the precise application.