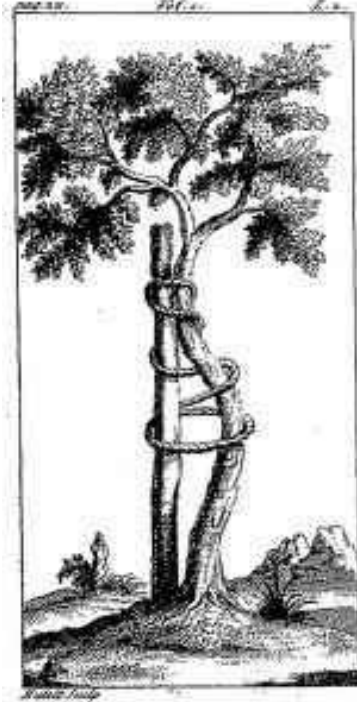


Cambridge Orthopaedic Club

34th Academic Meeting & Dinner



19th March 2016

Old Divinity School

St John's College, Cambridge

Abstracts Supplement

PRESENTING AUTHORS

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Karam Al-Tawil	ST5	Ipswich
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Helen Chase	ST8	Norwich
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CAMBRIDGE ORTHOPAEDIC CLUB PROGRAMME

Registrar session 1

(1000-1100)

Chair : Mr Alastair Vince

- 1000-1006** Laser osteoperforation – a novel minimally invasive technique for treatment of avascular necrosis of the femoral head
Sharier Sarker
- 1006-1012** Mandatory Reflection as a Learning Tool
Olivia Payton
- 1012-1018** Cementless acetabular cups in total hip arthroplasty: A comparison of early and later designs at mid-term radiographic review.
Pamela Garcia
- 1018-1024** Orthopaedic Surgical site surveillance in NHS England : An audit of current practice
Elizabeth K Tissingh
- 1024-1030** Functional outcomes in acetabular fractures in older patients: operative versus non-operative treatment
Matthew Seah
- 1030-1036** The use of interspinous Wallis device reduces revision rate post spinal lumbar decompression surgery
Karam Al-Tawil
- 1036-1042** A prospective study of screening for musculoskeletal pathology in children using ESR, CRP and MRI
Nnamdi Obi
- 1042-1048** Dynamic Response Index is not a suitable predictor of spinal injury risk in underbody blast
Ed Spurrier
- 1048-1054** Is there a relationship between early unplanned return to theatre and three-year revision rates for elective hip and knee replacement surgery?
Helen Chase

CAMBRIDGE ORTHOPAEDIC CLUB PROGRAMME

Registrar session 2

(1400-1500)

Chair : Mr Mark Latimer

- 1400-1406** The effect of Major Trauma Network activation on elective lower limb arthroplasty
Arman Memarzadeh
- 1406-1412** Cell salvage in spinal surgery
Tom Marjoram
- 1412-1418** Outcome of revision anterior cruciate ligament comparing hamstring autograft versus bone patella tendon bone autograft – a systematic review
K.H. Sunil Kumar
- 1418-1424** Posteromedial Bridging Callus In The Distal Femur Following Masquelet Technique - A Consistent Radiographic Finding
Lynne Barr
- 1424-1430** Electric Pedicle Integrity Testing (EPIT) is a simple, efficacious method of detecting medial breaches in posterior thoracic spinal instrumentation
Alexander Durst
- 1430-1436** Treatment modalities for hip and knee osteoarthritis : A systematic review of safety
Osama Aweid
- 1436-1442** The use of prothrombin complex concentrate in hip fracture patients: a district general hospital experience
Darshan Angadi
- 1442-1448** Errors in the National Hip Fracture Database, a validation study from a level I major trauma centre
Duncan Cundall-Curry
- 1448-1454** An Assessment of Patient Expectations undergoing Total Knee Arthroplasty on Day of Surgery.
Amresh Singh
- 1454-1500** Routine bone grafting is not required as an adjunct in the treatment of distal radius osteotomies
Yasmeen Khan

CAMBRIDGE ORTHOPAEDIC CLUB PROGRAMME

Registrar session 3

(1530-1630)

Chair : Mr Phillip Johnston

- 1530-1536** Iatrogenic Vascular Injuries During Hip Replacement Surgery
Zeiad Alshameeri
- 1506-1512** Radiological scapular notching in two reverse total shoulder replacements – Delta Xtend Vs Delta III.
Nicholas McArthur
- 1512-1518** Survey Of The Management Of Acute Traumatic First Time Anterior Shoulder Dislocation Amongst Orthopaedic Trainees In The United Kingdom
Jas Giddie
- 1518-1524** A retained stitch in time saves nine – but does it increase the risk of deep prosthetic infection
Ben Quansah
- 1524-1530** Do People with Big Feet Really Have Big.....?: Correlation of Shoe Size with Total Knee Replacement Component Size
Adam Devany
- 1530-1536** Self-perception in Orthopaedic Trainees: Is there a gender difference?
Aparna Viswanath
- 1536-1542** Management of hip fractures in Major Trauma Centres
Ken Wong
- 1542-1548** Total hip replacement for hip fracture: surgical techniques and concepts
Ross Coomber
- 1548-1554** Management of the ‘Open Book’ APC II, OTA type 61-B pelvis: Survey results from 38 Pelvic and Acetabular Surgeons in the United Kingdom and the Republic of Ireland
James Gill
- 1554-1600** Juvenile Osteochondritis Dissecans of the Knee: Idiopathic or Malalignment as a Cause?
Wystan Chevannes

Laser Osteoperforation – A Novel Minimally Invasive Technique for Treatment of Avascular Necrosis of the Femoral Head

Shahrier F Sarker, Rumana Hossain, Yakub M. Ali

Laser Osteoperforation is minimally invasive and potentially can reverse the process of AVN. This study in Bangladesh looks at the efficacy of this intervention.

40 patients with 62 hips with AVN of the hip were included. Staging was done with the Ficat system.

Under spinal anaesthetic, needles were placed subcortically in the femoral head and neck. A diode laser performed trans-trochanteric and trans-capital osteoperforation.

Patients were followed up for 1 year. Patients were assessed using the Harris Hip Score and radiological investigations.

Mean increase in HHS was 51. Stage I (n=15): 80% Excellent, 13.33% Good & 6.67% Fair. Stage II (n=10): 60% Excellent, 20% Good & 20% Fair. Stage III (n=17): 23.53% Excellent, 29.41% Good, 41.18% Fair & 5.88% Poor. Stage IV (n=20): 15% Excellent, 20% Good, 40% Fair & 25% Poor. Radiological improvement was significant. 2 minor complications encountered.

Laser osteoperforation is a safe and minimally invasive way of treating AVN of the femoral head. More research is needed to validate this study.

Mandatory Reflection as a Learning Tool

O Payton, E Spurrier, S Stapley

Reflection has become a compulsory part of medical training. This can be useful but some report little value from the task.

We sent a questionnaire to doctors of differing levels, and asked how often they were involved in reflection, whether this was mandatory, and whether they found this useful.

We received 608 responses, 66% from doctors in training. 90% stated that reflection was mandatory for training. 396 had a pre-set number of reflections they had to meet in a certain time-frame.

Formulaic responses are used in the “majority of occasions” or “always” for 26%. 27% admitted to copying and pasting from previous reflections. 20% altered their story to make it relevant to the message they wished to convey. 85% found voluntary reflection useful to some degree.

Although reflection plays its part as a learning aid, making this mandatory, with a set number of reflections seems to distract from its value.

Cementless acetabular cups in total hip arthroplasty: A comparison of early and later designs at mid-term radiographic review.

Pamela Garcia Pulido MBChB, MRCS

Lindsay K. Smith PhD, MSc, MCSP

Robert F. Spencer MD, FRCS

Introduction

Numerous design modifications have been introduced in total hip arthroplasty (THA) to combat osteolysis as a biological reaction to particulate wear debris from polyethylene components.

Purpose

Determine whether the use of modern cementless acetabular components led to reduced peri-acetabular osteolysis when compared with earlier counterparts.

Methods

20 THA patients with an EPF-PLUS® acetabular component were matched to a group of 20 patients with a Harris-Galante II implant, and the mid-term radiographic results (7-11 years) compared.

Results

There was a statistically significant difference in the number and type of radiographic changes in acetabular zones II, IV and V between the groups. Difference between the linear wear rate for each group was also statistically significant.

Conclusions

Different generations of cementless acetabular cup design produce a differing number of radiographic changes. Cup design and materials influence the development of osteolysis. Current views regarding cementless acetabular cups, based on registry analysis, may be based on out-dated technology.

ORTHOPAEDIC SURGICAL SITE SURVEILLANCE IN NHS ENGLAND: AN AUDIT OF CURRENT PRACTICE

E K Tissingh ,A Sudlow, Adrian Jones, J F Nolan, Norfolk and Norwich

Introduction

Surgical site infection (SSI) after joint replacement surgery can have major implications for the patient and the incidence of peri-prosthetic infection impacts on local orthopaedic practice. The importance of accurate identification and reporting of SSI is well recognized but poorly defined. Public Health England (PHE) mandated collection of orthopaedic SSI data in 2004. Data submission is required in one of four categories for one quarter per year. Trusts are encouraged to carry out post discharge surveillance but this is not a mandatory requirement. Two recent papers in the orthopaedic literature have highlighted the importance of SSI surveillance and commented on the heterogeneity of surveillance methods. However, the detail of current orthopaedic SSI surveillance practice has not been described or quantified.

Patients/ Materials and methods

All 143 NHS trusts in England were audited using a structured questionnaire. Data was collected in the following categories: data collection, data submission to PHE, definitions used, resource constraints, post discharge surveillance and SSI rates in the four PHE categories. The response rate was 91%.

Results

The variation in practice was clear in all categories: methods and timings of data collection and data submission. There was little agreement on SSI definitions used; at least six different definitions were used and some trusts used more than one definition. Post discharge surveillance was carried out by 62% of respondents but there was again variation in methods and staff utilised. More than half (55%) of respondents felt that SSI surveillance in their unit was limited by resource constraints. Infection rates ranged from 0% to 10%.

Conclusion

This work is the first in the UK to quantify the heterogeneity of SSI surveillance in England. It highlights the importance of adequate resourcing and the unreliability of relying on voluntary data collection and submission. Conformity of definitions and methods are recommended to enable meaningful SSI data to be collated.

Functional outcomes in acetabular fractures in older patients: operative versus non-operative treatment

James Rich, **Matthew Seah**, Joseph Queally, Peter Hull, Andrew Carrothers
Addenbrooke's Hospital

Background/purpose: Acetabular fractures in older patients are increasingly common but the optimal management remains unknown. We aim to compare functional outcomes in patients treated non-operatively with those treated operatively.

Methods: We identified 52 consecutive patients aged 60 years or older who sustained a displaced acetabular fracture in our unit. Their functional outcome was assessed using the EQ-5D and Oxford hip scores. Patient records and radiographs were reviewed to determine any complications.

Results: Patients in the operative group (n=40) had significantly higher EQ-5D scores. Patient who underwent ORIF combined with total hip replacement had better functional hip scores than those who had ORIF alone. Non-operative treatment (n=12) was associated with a higher incidence of symptomatic post-traumatic osteoarthritis.

Conclusion: Operative treatment appears to result in a better functional outcome in the short term. Patient who had ORIF combined with THR had the highest EQ-5D scores. A randomised controlled trial is required to determine optimal treatment.

The use of interspinous Wallis device reduces revision rate post spinal lumbar decompression surgery

Al-Tawil K, Blackman M and Suresh S.

Colchester General Hospital

Purpose: Patients undergoing lumbar spinal surgery can have high revision rates. Interspinous devices aim to reduce the need for revision surgery. The aim of this study is to evaluate the use of interspinous Wallis spacer, with revision surgery as the primary end point.

Methods: Retrospective study. Theatre log books were searched for the period January 2006 to May 2009 to identify all patients with insertion of Wallis interspinous device. The medical notes were reviewed by the first author with evaluation of clinic letters and operation notes.

Results: Total of 46 consecutive patients identified. Mean follow up of 7.5 years. Only 11% of patients required revision surgery at a mean of 5 years. In the majority non-revision group, 61% of the cases were deemed to have complete resolution of symptoms at discharge.

Conclusion: Our results demonstrate that the use of Wallis interspinous device reduces revision rates post spinal surgery and improves symptomatic outcome.

Institution: Department of Trauma and Orthopaedics, Colchester General Hospital.

A PROSPECTIVE STUDY OF SCREENING FOR MUSCULOSKELETAL PATHOLOGY IN CHILDREN USING ESR, CRP AND MRI

P.D. Mitchell, **N. Obi**, A. Viswanath, A. Littlewood, S. Ahmed, M. Latimer.

Presenting Author : Nnamdi Obi

Peterborough City Hospital

Aim: To determine if the detection of pathology in children with a limp can be optimised by screening with blood tests for raised inflammatory markers.

Methods: ESR and CRP were taken on all children (0-15 years) presenting to ED from 2012-2015 with a non-traumatic limp or pseudoparalysis of a limb, and no sign of fracture or malignancy on plain radiographs. Children with ESR or CRP over 10 underwent MRI scan of their symptomatic area.

Results: 64% of children were found to have an infective cause for their symptoms. 11% had positive findings on MRI that were not of infective cause. The remaining 25% had either a normal scan, or transient synovitis. ESR was found to be a more sensitive marker than CRP.

Conclusion: MRI imaging of all children with a limp and either raised ESR or CRP is a sensitive method to minimise the chance of missing important pathology.

Dynamic Response Index is not a suitable predictor of spinal injury risk in underbody blast

E Spurrier, S Masouros, J Clasper

Improvised Explosive Device (IED) attacks on vehicles have been a significant feature of recent conflicts. The Dynamic Response Index (DRI), developed for predicting spinal injury in aircraft ejection, has been adopted for testing vehicles in underbelly blast. Recent papers suggest that DRI is not accurate in blast conditions.

The literature was reviewed to identify the distribution of spinal fractures in aircraft ejection and incidents. A Joint Theatre Trauma Registry search identified victims of vehicle borne IED blast with spinal fractures. The populations were compared using SPSS software with Fisher's Exact tests at individual levels and a Kruskal-Wallis population test.

329 fractures were identified in ejector seat incidents; 1% cervical, 84% thoracic and 16% lumbar. 245 fractures were identified in victims of mounted blast; 16% cervical, 34% thoracic and 50% lumbar. There was no significant similarity between the two ($p=1$), and the incidence of a given fracture was statistically significantly different at each level and in each spinal region.

The clinical difference between blast and ejection injury patterns suggests that injury prediction models for ejection should not be extrapolated to blast mechanisms.

Is there a relationship between early unplanned return to theatre and three-year revision rates for elective hip and knee replacement surgery?

Helen Chase, Alex Bottle, Paul Aylin and Mark Loeffler

The relationship between return to theatre (RTT) and revision rate is unknown.

National hospital administrative data for England were used to compare RTT at 90 days (RTT90) with revision rates within 3 years by surgeon.

From 2006 to 2011, there were 297,650 hip replacements (HR) among 2952 surgeons and 341,226 knee replacements (KR) among 2343 surgeons. RTT90 rates were 2.1% for HR and 1.5% for KR; three-year revision rates were 2.1% for HR and 2.2% for KR. An RTT90 was associated with a 10-27% chance of a later revision within three years. There was an association between both measures and several patient characteristics including: male, socio-economic deprivation, previous emergency admissions, pulmonary circulation disorders, Parkinson's, obesity, and psychiatric conditions.

RTT90 appears to provide useful and complementary information on surgeon performance and should be considered alongside revision rates. Patients who have had any RTT90 are much likelier to have further complications and warrant more rigorous follow-up.

The effect of Major Trauma Network activation on elective lower limb arthroplasty

Arman Memarzadeh, Hussein Taki, Elizabeth Tissingh, Peter Hull

Addenbrookes Hospital, Cambridge

Abstract

Introduction: The major trauma network (MTN) was activated in 2012 in England, linking all district hospitals to major trauma centres (MTCs). Anecdotally, this has affected elective orthopaedic operating at MTCs. We aim to compare the number of total hip and knee replacements (THR, TKR) performed in the two year period before and after the activation of the MTN.

Methods: Data was obtained from the National Joint Registry and analysed before and after MTN activation. The Chi squared test was used to detect a significant difference.

Results: There was an 8.6% increase in the number of THRs performed in non-MTCs after MTN activation (94,504 to 102,632). However, there was an 8.0% *reduction* (6,849 to 6,301) in THRs in MTCs ($p < 0.05$). A significant reduction was also noted in TKRs.

Discussion: MTN activation has reduced the number of THR and TKRs performed in MTCs. Its impact on surgical training and hospital finances must be scrutinised in future research.

Cell salvage in spinal surgery

Tom Marjoram, Saaj Kaleel

Ipswich Hospital

Blood Transfusions cost £122 per unit but have other costs.

We analysed the use of cell saver in Ipswich Spinal Unit. Looking at the volume collected and re-infused to the patient, the pre- and post operative haemoglobin and the need for blood transfusion

We found that Cell saver was being used for a variety of cases. Revision surgery did not have a significant need for blood transfusion and cell saver use in these cases was often (66% of the time) not required. ALIF surgery utilised salvaged blood in 10% of cases but the bleeding was significant.

Overall the average drop in haemoglobin was comparable between those patients who had cell salvage technology utilised during their surgery compared to those who did not, this was echoed in the post operative blood transfusion rates. A cost analysis showed cell salvage to cost 43% more than the use of donated blood products.

Outcome of revision anterior cruciate ligament comparing hamstring autograft versus bone patella tendon bone autograft – a systematic review

K.H. Sunil Kumar*, D. Nathwani**

* Addenbrookes Hospital, Cambridge

** Imperial College Healthcare NHS Trust, London, United Kingdom

Revision Anterior cruciate ligament (ACL) reconstructions form about 10% of all ACL surgeries. This systematic review aims to compare the results of hamstring (HT) autograft versus bone-patella tendon-bone (BTB) autograft.

A literature search was performed, using a PICO structure question, to search MEDLINE, EMBASE, SPORTDiscus, CINAHL, AMED, Cochrane library and Journals @ OVID full text. Only articles reporting outcomes of HT or BTB autografts were included. A total of five studies reported on 85 patients with BTB autograft and 93 patients with HT autograft. There was no difference in the gender distribution between the two groups.

A post-operative IKDC objective grade of 'A' or 'B' was reported in 84.95% of patients in HT autograft group compared to 83.52% in BTB autograft group, which was not statistically significant ($p=0.795$). A KT1000 arthrometer reading of ≤ 5 mm was achieved in 94.6% of patients in the HT autograft group compared to 89.4% in the BTB autograft group, which was not statistically significant ($p=0.1969$)

Revision ACL reconstruction performed using both HT and BTB autograft has good mid-term result with no statistical difference in the mid-term.

Posteromedial Bridging Callus In The Distal Femur Following Masquelet Technique - A Consistent Radiographic Finding

Lynne Barr, Matija Krkovic

Addenbrooke's Hospital, Cambridge

Introduction: The Masquelet technique using a temporary cement spacer and staged bone grafting is commonly used to fill post-traumatic bone defects.

Methods: Five patients who sustained six open distal femoral fractures and were treated with Masquelet technique between 2013-2015 are reported. All were treated with distal femoral locking plates and have been followed up for at least six months post-injury.

Results: The mean age at injury was 42.5 years (range 31-69 years). All had sustained open fractures. The mean length of bony defect was 52.8mm (range 33-82mm). Each of the six fractures have exhibited prominent posteromedial bridging callus on follow-up radiographs. This specific and prominent callus location has not been noted in patients managed using alternative methods.

Conclusions: The aetiology of this consistent radiographic finding is as yet unclear. Hypotheses include a thermal gradient caused by the cement spacer which leads to a gradient of apoptosis and release of growth factors from cells triggering enhanced callus formation at a specific location. Vascularity of the posteromedial distal femur may also play a role. This series suggests that patients can be predicted to reliably develop posteromedial bridging callus following Masquelet technique. Once the aetiology is ascertained then this may be modified to enhance callus formation throughout the bony defect and consequently accelerate healing.

Electric Pedicle Integrity Testing (EPIT) is a simple, efficacious method of detecting medial breaches in posterior thoracic spinal instrumentation

Author: Alexander Durst

Co-Authors: Helen Grover, Julian Blake, Lennel Lutchman, Am Rai, Robert Crawford

Norfolk and Norwich

Background context

Medial pedicle screw breaches can be missed intraoperatively, during posterior thoracic spinal instrumentation. In contrast to the lumbar spine, the thoracic canal is narrower, pedicle screw positioning is more technically challenging and medial screw breach has greater clinical significance. There is no current established intraoperative method to detect thoracic breaches.

Purpose

To validate a new method of intraoperative EPIT.

Patient sample

578 spinal levels in 49 consecutive patients.

Methods

Pedicle tracts were tested with repetitive pulse-train stimulation. Suspected breached screws were removed and tracts were retested, or redirected with track re-test. Patients with known breaches were used as controls.

Results

510 levels tested negative (88.2%); 68 levels failed. Of these, 26 were considered clinically significant, resulting in either screw redirect or removal, with a breach confirmed in 15 levels (57.7% of significant fails).

Conclusions

EPIT is a simple, cost- and time-effective technique that augments existing neuromonitoring, to further prevent iatrogenic neurological injury in thoracic deformity surgery.

TREATMENT MODALITIES FOR HIP AND KNEE OSTEOARTHRITIS: A SYSTEMATIC REVIEW OF SAFETY

Osama Aweid¹, Abdel Saed¹, Yegappan Kalairajah¹

Luton and Dunstable Hospital, UK

We systematically reviewed the published evidence on the mortality and serious complications risk of common treatments for hip and knee osteoarthritis. We searched for studies investigating the safety of arthroplasty, arthroscopy, opioids, non-steroidal anti-inflammatory drugs, and paracetamol. 29 studies were included. Mortality risk was highest for Naproxen HR = 3 (1.9; 4.6) and lowest for total hip replacement HR = 0.8 (0.7; 0.9). Highest serious gastrointestinal complication risk was reported for paracetamol RR = 3.6 (2.6; 5.1) and lowest for total knee replacement HR = 0.6 (0.49; 0.75). Ibuprofen had the highest renal complications risk OR= 2.83 (1.65; 4.831) whereas celecoxib had the lowest RR = 0.72 (0.4; 0.94). Celecoxib users had the highest cardiovascular complication risk OR=2.26 (1-5.1) and the lowest was for tramadol RR = 1.1 (0.87; 1.4). Our results suggest that medical management of OA particularly with NSAIDs may carry a higher mortality risk compared to surgery.

The use of prothrombin complex concentrate in hip fracture patients: a district general hospital experience.

J Hong, S.Seewoonarain, **D.S.Angadi**, C.P.Martin

Ipswich Hospital

Presenting Author : Darshan Angadi

Introduction: Hip fracture patients undergoing timely surgery have better outcomes. Prothrombin complex concentrate (PCC) is routinely used in optimising hip fracture patients with coumarin anticoagulation. However only limited studies are available in the literature on the topic.

Aim: Evaluate the use of PCC in reversal of warfarin anticoagulation in hip fracture patients.

Methods: Retrospective review of hip fracture patients between Jan 2015-June 2015.

Results: Amongst a total of 197 patients, 14 (female-7, male-7) with an average age 87.8 (78-96) years received PCC. Anticoagulation indications included cerebrovascular accident (1) and atrial fibrillation (13) patients. Proximal femoral nail, dynamic hip screw and hemiarthroplasty were performed in 1, 6 and 7 patients respectively. Mean (\pm SD) preoperative wait 30.8(\pm 11.2) hours. Mean (\pm SD) preoperative INR was 2.61(\pm 0.63) and postoperatively therapeutic INR was achieved after 76.8 (\pm 31.2) hours. 3/14(21%) had wound oozing affecting length of stay.

Discussion & Conclusions: PCC is an effective method of reversing anticoagulation in hip fracture patients. However it has implications in terms of cost and restoration of therapeutic INR postoperatively.

Errors in the National Hip Fracture Database, a validation study from a level I major trauma centre

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C. R. Gooding BSc MD FRCS Tr and Orth¹

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2. School of Clinical Medicine, Cambridge University Hospitals NHS Foundation Trust

Abstract:

As part of an internal audit the authors reviewed the data from a level I major trauma centre cohort entered into the National Hip Fracture Database (NHFD), to validate the dataset available. A total of 2036 neck of femur fractures were reviewed between July 2009 and June 2014 (1436 F: 600 M), Mean age 84 (range 46-103). Reliability data was calculated with cross-tabulation and calculation of sensitivity, specificity, overall accuracy with confidence intervals, and McNemar's test results. Nine patients had incorrect demographics recorded with an adjusted age difference ranging from minus 32 years to plus 21 years. Rate of incorrect data in operation codes was most significant with overall accuracy, excluding codes with 100% error rates, of 0.637 (95% CI 0.615-0.658). Sensitivity of NHFD coding ranged from 0.250-1.000. Specificity of NHFD coding ranged from 0.879-0.999. The use of cement in implant fixation was found to have a sensitivity of 0.932, and specificity of 0.713. The recording of Total Hip Arthroplasty on the NHFD had a sensitivity of 0.739, and specificity of 0.983. Overall accuracy for mortality data was 0.942 (9% CI 0.931-0.952), with sensitivity of 0.967 and specificity of 0.419. This paper highlights the need for improved data recording and validation in the NHFD.

An Assessment of Patient Expectations undergoing Total Knee Arthroplasty on Day of Surgery.

Akash Soogumbur, **Amresh Singh** and McNamara I.

Norfolk and Norwich Hospital

Background

The management of patient expectations have been shown to have an effect on patient satisfaction following total knee arthroplasty (TKA). This may also have a bearing on their patient related outcome measure (PROMs). Currently, patients are seen in clinic, pre-assessment, hip/knee school and on the day of surgery. The authors feel that despite multiple opportunities to manage patients' expectations via the consultations or presentations at the hip/knee school, these can remain unrealistic in some patients. Our aim was to assess patient expectations on the day of surgery prior to TKA.

Methods

Over the month of December, all patients were given a validated PROFEX "expectations" questionnaire on the day of surgery. The 20 item questionnaire has been shown to be reliable and consistent in assessing expectations. The data was collected and analysed. All patients had previously been seen in clinic and at pre-admission clinic by a consultant.

Results

14/28 expect significant pain relief within 6 weeks.
9/28 expect 100% pain relief after the operation
21/28 expect 75-100% pain relief after the operation
9/28 would find it totally unacceptable or unacceptable to require pain relief long term after operation
7/28 find it unacceptable to have some discomfort while walking on level ground.
7/28 would find it unacceptable or totally unacceptable to use walking aids after operation
15/28 have high or very high expectations that walking speed will increase after surgery
18/28 have high or very high expectations that they will walk without a limp after surgery
19/28 expect high to very high improvements in their ability to climb stairs
10/28 expect high to very high improvement in their ability to kneel after op

Conclusions

Despite our attempts at patient education, we do not always successfully manage patients' expectations despite multiple consultations. Some patients still seem to have unrealistic expectations. This may cause them to have poor satisfaction and subsequently PROMs after their operation. Changes in the way we provide information should be considered to better manage expectations.

Routine bone grafting is not required as an adjunct in the treatment of distal radius osteotomies

Y Khan MBChB MRCS SPR

L Spalding MBBS MRCS SPR

A Memarzadeh MBBS SPR

P Johnston MD, FRCS Consultant

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Addenbrooke's Hospital, Cambridge

We retrospectively reviewed 19 patients who underwent distal radial osteotomies for symptomatic mal-united distal radius fracture without the use of bone graft. Bone grafts are associated with donor site morbidity, delayed union at bone-graft interfaces, size mismatch between graft and osteotomy defect, and additional operation time. Patients underwent either open wedge osteotomies or trapezoid radial osteotomies, performed by our senior author between 2010 and 2015. The operative technique was standard for all patients with fixation using a volar locking plate (n=5 titanium plate n=14 steel plate). Patients were followed up at 1 week, 6 weeks, 6 months and 1 year where radiographs were performed to confirm time union. Time to union was 7.1 months titanium plate group and 8.3 months for the steel plate group. Without the use of bone grafting, corrective open wedge osteotomy fixed by a volar locked plate provides a high rate of union and satisfactory functional outcomes.

Iatrogenic Vascular Injuries During Hip Replacement Surgery

Alshameeri Z, Bajekal R, Varty K & Khanduja V.

Addenbrooke's Hospital, Cambridge

Vascular injuries during total hip replacements (THR) have traditionally been managed with open exploration, but more recently there has been a trend towards percutaneous endovascular management. We performed a systematic review of the literature to assess if this change in trend has led to improvement in the overall reported rates of morbidity and mortality over the last 22 years in comparison with literature reviews published previously. Laceration injuries were the most prevalent (44%) and delay to diagnosis was associated with the type of vascular lesion ($p < 0.001$) and the clinical presentation ($p = 0.002$). Percutaneous endovascular interventions were used in 1/3 of injuries and more consistently over the last 13 years. The main reported complications included death (7.3%), amputation (1.6%), and persistent ischemia (7.3%). When compared with older reports there was a similar reported rate of mortality but lower rates of amputation and permanent disability especially in cases managed by endovascular strategies.

Radiological scapular notching in two reverse total shoulder replacements – Delta Xtend Vs Delta III.

By **Nicholas McArthur**

Supervising consultants: Mr Jeremy Tuite and Mr William Williams

Broomfield Hospital, Chelmsford

Introduction:

Notching is a known feature of reverse shoulder total arthroplasty which may prolong the length of patient follow up and affect implant survival. We have assessed the scapular notching of two implants, the Delta III and Delta Xtend in our Orthopaedic department.

Patients and Methods:

13 patients who underwent reverse total shoulder arthroplasty with the Delta III and 15 patients who underwent reverse total shoulder arthroplasty with the Delta Xtend were included in our retrospective study. We examined the degree of notching according to the Nerot-Serveaux classification on radiographs at an average of 1 year follow-up.

Results:

The Delta III showed significant more notching of the two prostheses ($p < 0.001$). In one case the severe degree of notching of the Delta III also lead to breakage of the inferior screw of the glenoid component.

Discussion:

The delta Xtend appears to have reduced levels of notching. The long term significance of this phenomenom would need to be further assessed.

Survey Of The Management Of Acute Traumatic First Time Anterior Shoulder Dislocation Amongst Orthopaedic Trainees In The United Kingdom

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Introduction

The management of traumatic first time anterior shoulder dislocation (AFSD) is rife with controversies in both the acute and after care amongst health care professionals. The aim of this study was to survey the management of AFSD's amongst orthopaedic registrars in the UK using an online questionnaire.

Materials and Methods

Between September and November 2014 the survey link was sent via email to all orthopaedic trainees (ST3 – 8 level) in the United Kingdom. The questions were sub divided into 2 groups. The first group addressed the initial reduction, while the second group looked into investigation of the symptomatic shoulder post reduction. Questions for the first part included analgesic preference – choice and administration, reduction technique, the use of pre and post reduction radiographs, position and duration of immobilization, time to follow up following a successful reduction and the acute management of a greater tuberosity fracture dislocation, Questions in the second part addressed the investigation of a stiff and painful shoulder following a reduction and the investigation of an axillary nerve palsy.

Results

The response rate was 19%. Intravenous opioids with sedation was the most popular choice of anaesthetic agent (65%) whereas only 1% of respondents would use intra-articular analgesia. In this survey seven different reduction techniques were cited, of which Matsens maneuver was used most commonly. There was a 95% compliance for requesting 2 radiographic views pre-reduction, however post reduction this figure fell to 89%. Ninety eight percent of trainee's would follow patients up within two to three weeks following a successful reduction. Immobilization in internal rotation was advocated by 98% of the respondents versus 2% for external rotation. In cases with a fracture dislocation the reduction technique did not change but half the respondents would perform the reduction using a general anaesthetic. Investigation of a painful shoulder with limited movements returned a 100% positive response rate although the imaging modality varied amongst the respondents. The majority of respondents (82%) would manage axillary nerve palsy through observation and if no improvement was noted at 6 weeks, they would then investigate.

Conclusion

This survey confirms although there is significant variation in the management of AFSD, amongst orthopaedic registrars, a majority demonstrate a safe approach managing AFSDs.

A RETAINED STITCH IN TIME SAVES NINE - BUT DOES IT INCREASE THE RISK OF DEEP PROSTHETIC INFECTION?

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Abstract

Introduction

During the posterior approach to the hip, the short external rotators are detached and secured with stay sutures. At the time of definitive closure, some surgeons incorporate the initial sutures into their repair while others discard for fresh sutures, presumably as an infection prevention measure. We have conducted a pilot study to investigate whether the incorporation of the primary stay sutures may constitute an infection risk to the patient undergoing a total hip replacement through the posterior approach.

Materials and Methods

The pilot study was conducted between August 2014 and June 2015. A pair of suture specimens were sent from 25 patients to microbiology, one set of primary stay sutures and one set of control sutures. All operations were carried out by the senior author through a posterior hip approach. This study was approved as a service evaluation by the hospital's audit department.

Results

All specimens were analysed for bacterial and fungal growth, using extended cultures. All cultures were negative.

Conclusion

Our pilot study suggests that the practice of incorporating the primary stay sutures for definitive soft tissue repair of the short external rotators, rather than exchanging them for new sutures, can be deemed safe practice.

[Keywords: Posterior approach; Deep infection; Total Hip Replacement; Hip Arthroplasty]

Do People with Big Feet Really Have Big.....?: Correlation of Shoe Size with Total Knee Replacement Component Size

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Aim: To identify whether shoe size can be used to guide the femoral and tibial component sizes.

Background

Studies have shown the importance of accurate sizing of femoral and tibial components in total knee arthroplasty- including post-operative symptoms and on revision rates¹⁻². Sawalha et. al found that shoe size could be used as a method to predict femoral component size in Oxford unicompartmental Knee Replacement³.

Methods

A retrospective study was conducted to assess the correlation between shoe size and the femoral and tibial component sizes of their total knee replacement.

The medical records of patients who had undergone AGC, AMP and Vanguard Total Knee replacements over 1 year were analysed, and the tibial and femoral component sizes, shoe size (British), weight, height, and BMI were recorded.

Results

From 6 October 2013- 6 October 2014 there were a total of 202 total knee replacements performed. Of 158 patient records available, 121 (80 female: 41 male) responded with their shoe size. The mean age was 71 (range 51 – 88). The mode shoe size for women was 6 and for men was 9.

There was a strong overall correlation between femur size and shoe size ($R=0.7070$), and a moderate correlation for tibial component ($R=0.5831$). Comparing femur to shoe size the R values were: Vanguard = 0.7783, AGC = 0.7681 and AMP = 0.6495. This highlights a strong correlation between shoe size and tibia size for both Vanguard and AGC.

R values for the various brands for tibial size; Vanguard = 0.8075, AGC = 0.7672, AMP = 0.5848.

Discussion

A strong correlation exists between shoe size and knee replacement component size and may offer an alternative to templating. An accurate estimation of component sizes may help during list planning and stocking of prostheses in a more efficient manner.

Shoe sizes are a variable measurement and an alternative method to obtain a more accurate result may be to directly measure the foot size of patients pre-operatively.

Self-perception in Orthopaedic Trainees: Is there a gender difference?

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As the number of women in orthopaedics steadily increases, we look at the self-perception of female and male trainees. We hypothesise that female trainees in orthopaedics have a lower estimation of their own abilities than their male counterparts.

Primarily using the MSF tool, we aim to recognise potential training differences that may be relevant in improving overall performance for trainees.

In our pilot study we show that 64% of male trainees rate themselves as outstanding in at least one subsection of the MSF; this is compared with only 14% of female trainees. Similarly, 9% of male compared with 57% of female trainees had external comments suggesting more confidence is needed.

We look at overall potential gender differences and suggest simple training techniques that may be helpful to modify inaccurate self-perception. This study is being done with a view to undertaking a larger national ISCP-based project looking largely at self-perception.

Management of hip fractures pre- and post-Major Trauma Centre activation.

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INTRODUCTION:

In April 2012, the activation of the regional trauma networks in England was carried out to improve the organisation of trauma care. NHS Trusts that could meet the highest standard of care to complex trauma were designated Major Trauma Centres (MTCs). MTCs receive patients fulfilling certain triage criteria, as well as secondary transfers from nearby trauma units. While complex trauma care is streamlined with this new organisation, the impact this would have on the rest of the trauma workload within MTCs as well as non-MTC hospitals is uncertain. We investigate whether the management of hip fracture cases had suffered as a result of a trauma unit becoming a MTC.

METHODS:

Summary data was collated from the National Hip Fracture Database website for the periods of April 2011-April 2012 (the 'pre-MTC' activation period) and April 2012-April 2013 (the 'post-MTC' activation period). As our primary outcome, we compared the time to surgery within 36h between MTCs and non-MTCs for the periods detailed above. Other outcome measures were: reasons for delay to surgery, length of acute stay, proportion of cases meeting Best Practice Tariff criteria.

RESULTS:

A total of 54,897 and 55,998 fNOF patients were included for all hospitals in England in the pre- and post-MTC periods respectively. For MTCs, a weighted mean average of 66.6% patients had surgery within 36h in the pre-MTC period versus 71.4% of patients in the post MTC period ($p < 0.0001$). For non-MTCs, a weighted mean average of 70.0% of patients had surgery within 36h in the pre-MTC period versus 73.8% of patients in the post-MTC period ($p < 0.0001$). Non-MTCs in both pre- and post-MTC activation periods were therefore better in percentage of patients receiving surgery within 36h.

DISCUSSION:

The data presented suggests that the creation of MTCs has not had a deleterious effect on the management of hip fracture patients. This paper aims to stimulate the important discussion of maintaining a consistently improving standard throughout the spectrum of trauma care, in conjunction with the development of regional Major Trauma Networks.

Total hip replacement for hip fracture: surgical techniques and concepts

Instructional review.

Ross Coomber, Matthew Porteous and Martyn J Parker

Abstract

When treating a hip fracture with a total hip replacement (THR) the surgical technique may differ in a number of aspects in comparison to elective arthroplasty. The hip fracture patient is more likely to have poor bone stock secondary to osteoporosis, be older, have a greater number of co-morbidities, and have limited peri-operative work-up. These factors lead to a higher risk of complications, morbidity and perioperative mortality.

Consideration should be made to performing the THR in a laminar flow theatre, by a surgeon experienced in total hip arthroplasty, using an anterolateral approach, cementing the implant in place, using a large head size and repair of the joint capsule. Post-operatively these patients may be treated in a similar way to elective THR patients but with less expectation on short length of stay and consideration for fracture prevention measures.

Management of the 'Open Book' APC II, OTA type 61-B pelvis: Survey results from 38 Pelvic and Acetabular Surgeons in the United Kingdom and the Republic of Ireland

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Background:

Controversy exists regarding the optimal fixation construct in the treatment of disruptions of the 'open book' APC II (Young-Burgess), OTA type 61-B pelvic injuries including whether to use a single or double anterior plate construct placed on the pubic symphysis, the use of standard plates versus locking plates and the indication for sacroiliac joint screws.

Aim:

To determine the current management of APC II, OTA type 61-B pelvic injuries by specialist Pelvic and Acetabular Surgeons across the United Kingdom (UK) and the Republic of Ireland (ROI).

Method:

A short electronic questionnaire was sent to 60 Pelvic and Acetabular Surgeons across the UK and ROI. The survey consisted of 6 multiple choice questions about methods of fixation and post-operative weight bearing relating to a case described as a young adult male with a closed, neurovascularly intact, isolated pelvic injury classified as APC II, OTA type 61-B.

Results:

38/60 (~63%) surgeons responded to the questionnaire. Regarding pubic symphysis fixation 27/37 utilise a single anterior plate whereas 10/37 favour two orthogonal anterior plates placed at 90° to one another. Anterior plating alone with no posterior fixation was favoured by 13/37 (35%), with 8/13 favouring a single anterior plate and the remaining 5/13 preferring two orthogonal anterior plates. In total 24/37 (65%) opted for some form of posterior fixation, 14/24 opting for a single sacroiliac joint (SIJ) screw, with the remaining 10/24 preferring two SIJ screws. A single anterior plate and a single SIJ screw was the most popular single answer chosen for method of surgical fixation, chosen by 13/37 (35%) of respondents. Regarding weight bearing status of the affected side immediately post-operatively; 4/35 (11%) surgeons allow full weight bearing, 16/35 (46%) allow partial weight bearing and 15/35 (43%) prefer non weight bearing. Regarding timeframe until full weight bearing permitted on the affected side post operatively; 4/37 (11%) allow full weight bearing within 0-4 weeks, 11/37 (30%) allow full weight bearing within 4-8 weeks and remaining 22/37 (59%) permit full weight bearing after 8-12 weeks.

Conclusions:

The results of the survey show that the opinion of Pelvic and Acetabular Surgeons in the UK and the ROI vary as to the best method of definitive fixation and post-operative weight bearing regimen for an APC II, OTA type 61-B pelvic injury. Classification of pelvic injuries is not always straightforward and therefore as suggested by a number of survey respondents and advocated by the senior author, case by case assessment and intraoperative screening to assess stability is essential when considering whether to stabilise the SIJ. Biomechanical and clinical studies are required to assess single plate versus double orthogonal plate pubic symphyseal constructs and anterior plating versus anterior plating with posterior stabilisation in the APC II, OTA type 61-B pelvis.

Juvenile Osteochondritis Dissecans of the Knee: Idiopathic or Malalignment as a Cause?

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Abstract:

The aetiology of juvenile osteochondritis dissecans (JOCD) of the knee is unknown. Coronal and rotational leg malalignment are not usually considered as possible causes and therefore investigations are often limited to the knee.

We retrospectively reviewed all patients presenting to our department with JOCD of the knee over a 10 year period from 2004- 2014 and assessed whether they were clinically and radiologically assessed for concomitant malalignment. Secondly we describe our experience of managing 3 cases with JOCD and malalignment.

Only 7 (21%) out of 34 patients were found to have been formally assessed for lower limb malalignment, of which 3 underwent surgery.

Malalignment plays a possible role in the aetiology of JOCD of the knee. All such patients should have clinical and radiological assessment of coronal and rotational alignment. We propose that all patients with JOCD and malalignment should undergo corrective surgery.

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