

Ruwan E. Wijesuriya, Editor

Abridged abstracts from the surgical literature

The seven-year wear of highly cross-linked polyethylene in total hip arthroplasty: a double-blind, randomized controlled trial using radiostereometric analysis.

Thomas GE, Simpson DJ, Mehmood S, Taylor A, McLardy-Smith P, Singh Gill H, Murray DW, Glyn-Jones S. *J Bone Joint Surg Am.* 2011 Apr; 93(8):716-22.

Background: The use of highly cross-linked polyethylene is now commonplace in total hip arthroplasty. Hip simulator studies and short-term in vivo measurements have suggested that the wear rate of highly cross-linked polyethylene is significantly less than that of conventional ultra-high molecular weight polyethylene. However, long-term data to support its use are limited. The aim of this study was to compare the intermediate-term steady-state wear of highly cross-linked polyethylene compared with that of conventional ultra-high molecular weight polyethylene acetabular liners in a prospective, double-blind, randomized controlled trial with use of radiostereometric analysis.

Methods: Fifty-four patients were randomized to receive hip replacements with either conventional ultra-high molecular weight polyethylene acetabular liners (Zimmer) or highly cross-linked polyethylene liners (Longevity; Zimmer). All patients received a cemented, collarless, polished, tapered femoral component (CPT; Zimmer) and an uncemented acetabular component (Trilogy; Zimmer). Clinical outcomes were assessed and the three-dimensional penetration of the head into the socket was determined for a minimum of seven years. Linear regression was used to calculate

the steady-state wear rate following the creep-dominated penetration seen during the first year.

Results: At a minimum of seven years postoperatively, the mean total femoral head penetration was significantly lower in the highly cross-linked polyethylene group (0.33 mm; 95% confidence interval [CI], ± 0.10 mm) than it was in the ultra-high molecular weight polyethylene group (0.55 mm; 95% CI, ± 0.10 mm) ($p = 0.005$). The mean steady-state wear rate of highly cross-linked polyethylene was 0.005 mm/yr (95% CI, ± 0.015 mm/yr), compared with 0.037 mm/yr (95% CI, ± 0.019 mm/yr) for conventional ultra-high molecular weight polyethylene ($p = 0.007$). No patient in the highly cross-linked polyethylene group had a wear rate above the osteolysis threshold of 0.1 mm/yr, compared with 9% of patients in the ultra-high molecular weight polyethylene group.

Conclusions: This study demonstrates that highly cross-linked polyethylene has a significantly lower steady-state wear rate compared with that of conventional ultra-high molecular weight polyethylene. Longer-term follow-up is required to determine if this will translate into improved clinical performance and longevity of these implants.

Abstractor's comments

Long term complications of total hip replacement are osteolysis and loosening, both of which have been attributed to polyethylene wear[1]. In a country like Sri Lanka where the health care system has a constrained budget having to do revision surgery would upset the economics of the health sector. It is in this perspective that using a more durable bearing surface (highly cross-linked polyethylene) even though more expensive, will be a viable option in the long run.

The above study is a comparison between steady state wear characteristics between

highly cross-linked polyethylene (HXPE) acetabular liners to ultra high molecular weight (UHMWPE) ISSN1391-491X

years. The most significant revelation of this trial is "No patient in the highly cross-linked polyethylene group had a wear rate above the osteolysis threshold of 0.1 mm/yr, compared with 9% of patients in the ultra-high molecular weight polyethylene group".

There are numerous positive factors in the above trial. The first and foremost is that it is a randomized, double blinded trial. The duration of the study is for a period of seven years which is one of the longest studies to date, with only two other trials having similar duration [1,2]. The osteolysis, abduction angle of acetabular implant were assessed by two orthopaedic surgeons independently, both of whom were not involved in the surgery. The linear wear of the acetabular liner was assessed by radiostereometric analysis while the patient was bearing weight which is more accurate than plain X-ray analysis [3,4].

The weakness of the trial was that the total number of participants in the trial was small (n=54) and it was a single institution study involving a population belonging to a single demographic location. The study received funding from Zimmer, only Zimmer implants were used, whether these results can be extrapolated to other manufacturers is not known from this study. All patients selected had primary osteoarthritis and no other indication for total hip arthroplasty was entertained. It was the linear wear rate rather than volumetric wear rate that was assessed, with backside wear not being assessed.

In Sri Lanka both highly cross-linked polyethylene and ultra high molecular weight polyethylene are available. This study demonstrates better wear characteristics of highly cross-linked polyethylene. This in all probability will lead to longevity of the implanted hip and reduced necessity for revision surgery. Therefore we should look at using highly cross-linked polyethylene as the standard bearing surface for total hip replacements.

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Jeyakumar J, MD, MRCS; Perera M.V, MS, FRCS.

External pancreatic duct stent decreases pancreatic fistula rate after pancreaticoduodenectomy: prospective multicenter randomized trial.

Patrick Pessaux, Alain Sauvanet, Christophe Mariette, Francois Paye, Fabrice Muscari, Antonio SA Cunha, Bernard Sastre, Jean-Pierre Arnaud. *Ann Surg.* 2011 May;253(5):879-85.

Objective: Pancreatic fistula (PF) is a leading cause of morbidity and mortality after pancreaticoduodenectomy (PD). The aim of this multicenter prospective randomized trial was to

compare the results of PD with an external drainage stent versus no stent.

Methods: Between 2006 and 2009, 158 patients who underwent PD were randomized intraoperatively to either receive an external stent inserted across the anastomosis to drain the pancreatic duct (n = 77) or no stent (n = 81). The criteria of inclusion were soft pancreas and a diameter of wirsung <3 mm. The primary study end point was PF rate defined as amylase-rich fluid (amylase concentration >3 times the upper limit of normal serum amylase level) collected from the peripancreatic drains after postoperative day 3. CT scan was routinely done on day 7.

Results: The 2 groups were comparable concerning demographic data, underlying pathologies, presenting symptoms, presence of comorbid illness, and proportion of patients with preoperative biliary drainage. Mortality, morbidity, and PF rates were 3.8%, 51.8%, and 34.2%, respectively. Stented group had a significantly lower overall PF (26% vs. 42%; P = 0.034), morbidity (41.5% vs. 61.7%; P = 0.01), and delayed gastric emptying (7.8% vs. 27.2%; P = 0.001) rates compared with nonstented group. Radiologic or surgical intervention for PF was required in 9 patients in the stented group and 12 patients in the non-stented group. There were no significant differences in mortality rate (3.7% vs. 3.9%; P = 0.37) and in hospital stay (22 days vs. 26 days; P = 0.11).

Conclusion: External drainage of pancreatic duct with a stent reduced PF and overall morbidity rates after PD in high risk patients (soft pancreatic texture and a non-dilated pancreatic duct).

Abstractor's comments

Pancreatic fistula unarguably is the most challenging complication following pancreatoduodenectomy. Though n=158 is a small number for a multicenter prospective randomized trial it reinforces with evidence, previously practiced concepts of pancreatic surgery. The important message from this study

is that pancreatic stenting in patients at a higher risk of a pancreatic leak (i.e. soft pancreas, non dilated pancreatic duct) would benefit from an external pancreatic duct drainage. Considering the additional time spent on this procedure as well as possibility of an intestinal leak and high incidence of stent dislodgement it would be prudent to stent the duct only when it is indicated. **Chandika Liyanage;MPhil, MS, MRCS.**

Survival of metal-on-metal hip resurfacing arthroplasty: A systematic review of the literature.

van der Weegen W, Hoekstra HJ, Sijbesma T, Bos E, Schemitsch EH, Poolman RW.J Bone Joint Surg Br.2011 Mar; 93-B(3):298-306.

We systematically reviewed the peer-reviewed literature to relate the survival of hybrid metal-on-metal hip resurfacing arthroplasty devices to a National Institute of Clinical Excellence (NICE) benchmark for choosing a primary total hip replacement, which is a survival rate of 90% at a follow-up of ten years.

A total of 29 articles (10 621 resurfaced hips) met the inclusion criteria. The mean follow-up ranged from 0.6 to 10.5 years and the survival of the implant ranged from 84% to 100%. Of the 10 621 hips, 370 were revised (3.5%), with aseptic loosening as the most frequent mode of failure.

None of the hip resurfacing arthroplasty implants used to date met the full ten-year NICE benchmark of survival. A total of 13 studies showed satisfactory survival compared with the three-year NICE benchmark.

Abstractor's comments

All five designs studied had performance above and below the 3 year benchmark. The most common causes of failure were aseptic loosening and fracture of the neck. The pooled revision rate of 3.5% was higher than that for conventional THR in patients under 55. The incidence of ALVAL (Aseptic Lymphocytic Vasculitis Associated Lesions) was not reported as the studies on metal ion levels had only small

numbers and were excluded. Rates of revision for dislocation were low. The advantages of good function, reduced dislocation, and preserved neck must be weighed against the

potential problems. Not enough time has passed for an informed decision.

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Abstracts selected from the Annual Academic Sessions of the College of Surgeons of Sri Lanka 2011

Life after lower extremity amputation (LEA): outcome of major lower limb amputations in arteriopath

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Introduction: Major LEA is a common sequel among arteriopath. We assessed the quality of life (QOL) and functional outcome of such amputees in the local setting.

Methods: Forty amputees were contactable from a total of 113 major LEA (April 2007 and May 2011). Data was collected using an interviewer administered questionnaire which included the Modified Nottingham Health Profile (MNHP) and Modified Hospital and Anxiety Scale (MHAS).

Results: The mean follow-up was 26 months (6-48). The median age was 65 (37-93). Males were 30 (75%). Below knee amputees were 23 (58%). There were 31 (78%) diabetics, 18 (45%) hypertensives and 13 (33%) with ischemic heart disease. Mortality was 35% (n=14). Eight (57%) died within first 3 months of amputation. Of the remaining, 8 (57%) needed amputation of the other limb. Out of 26 (65%) who were referred for prostheses, only 4 (10 %) were using these. Prostheses use among them too was for limited periods [10 hours/ day (6-15)]. The reasons for not using prostheses were lack of motivation 11 (78%), stump related complications 4 (29%) and generalized weakness 3 (21%). Sixteen (40%) were using crutches and 13 (33%) were wheelchair bound. The average MNHP index was 48.92 (0-90). Depression and anxiety were detected in 23 (58%) and 9 (23%), respectively.

Conclusion: Majority of LEAs were elderly with multiple co-morbidities. Prosthesis use and

QOL is poor in this group. LEA prevention and rehabilitation must be prioritized

Number of lymph nodes harvested has a survival benefit in colorectal cancer

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Introduction: Lymph node status is important in staging colorectal cancer. Presence of metastatic nodes differentiates stage III from stage II. The role of adjuvant therapy is still unclear in stage II cancer. Inadequate node sampling may result in inaccurate staging.

Methods: Records of 131 patients with stage II and III disease who underwent curative resection between 1997 and 2007 were analysed. Only those with 5 or more lymph nodes harvested from the specimen were included. All patients were prospectively followed up for a minimum of three years. A univariate analysis was used to compare actuarial overall survival by the Kaplan-Meier method based on different lymph node groups. Based on similar studies published statistical significance was assigned to a P value of 0.1.

Results: Sixty one cancers were stage II [mean age – 56, male – 55%] and 70 were stage III [mean age – 59, male – 52%]. The total population showed improved survival with 14 or more nodes harvested (P= 0.005). Nodal yield of 14 or more was an independent factor for improved survival in cancers staged as II (P=0.07) and III (P=0.02). For rectal cancer (n=83) over 14 nodes harvested showed improved survival (P=0.03) irrespective of the stage. Result was similar for colon cancers (n=46; P=0.08).

Conclusion: Our data indicates a lymph node harvest of 14 or more nodes results in significant better survival in this population. Staging of the disease may be accurate with increased nodal harvesting.

Presentation of colorectal cancer in a local population: Analysis of the trend

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Introduction: The incidence of colorectal cancer is increasing in Sri Lanka. We undertook a retrospective analysis to identify the trend in presentation of colorectal cancer in the North Colombo region.

Method: 502 patients presenting with colorectal cancer were included and grouped into three time periods: 1996 - 2000 (P1), 2001 - 2005 (P2) and 2006 - 2010 (P3). Demographics, tumour stage, site, mean period of symptoms and presence of family history were analysed. Chi squared test was used to compare the observations.

Results: The median age (years) for presentation has remained unchanged (P1 – 58, P2 – 60, P3 – 59). The majority of the cancers have remained in the rectal and rectosigmoid region (P1 – 59.4%, P2 – 61.2%, P3 – 65.7%). Colon cancers show a significant reduction during P3 compared to P2 (27.6% versus 14.5%; P= 0.006). Right sided colon cancers have increased significantly during P3 compared to P2 (11.2% versus 19.8%; P=0.01). A significant increase in cancers with a positive family history was seen during P2 (P1 – 4% versus P2 – 15%; P=0.01). Early cancers (T1 & T2) were encountered more with passage of time (P1 – 17.6%, P2 – 27.8%, P3 – 30.9%). Proportion of young cancers (age < 40 years) has reduced over time (P1 – 17.6%, P3 – 9.8%; P=0.07). Mean duration of symptoms is between 8 and 9 months.

Conclusion: There is an increase in right sided colon cancers and familial cancers. The predominance of rectal and rectosigmoid cancers is unchanged. Increase in early stage at presentation may be due to improved surveillance with colonoscopy.

Live donor renal transplantation in Sri Lanka; factors affecting overall outcome

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Introduction: Patient and allograft survival following Live Donor Renal Transplants (LDRT) depend on numerous factors. We looked at our patient and graft survival along with possible predictors of allograft outcome.

Methods: 309 consecutive LDRT performed between July 2006 and March 2011 were prospectively studied. Recipient age, donor age, degree of HLA mismatch, duration of pre-transplant dialysis, acute rejection in the first month and post-transplant CMV infection were studied in a multivariate logistic regression model.

Results: The follow-up was complete in 292/309 (95%). Mean follow-up was 28 (6-62) months. The mean recipient and donor ages were 42 (17-72) and 39 (20-60) years respectively. Overall patient survival was 248/292 (85%). The causes of death were sepsis (n=34, 77%), myocardial ischaemia (n=3, 7%), stroke (n=4, 9%), pulmonary embolism (n=1, 2%) and other (n=2, 5%). The primary cause of sepsis was graft pyelonephritis (n=14), pneumonia (n=13) and meningitis (n=7).

There were 31 (11%) Graft Failures (GF); 24 primary and 7 secondary (mean graft survival 10 months). Acute rejection in the first month was found to be a significant (p=0.014) independent predictor of GF while the other variables studied failed to show any statistical significance.

Conclusion: Post-transplant sepsis is the commonest cause of mortality. Early acute rejection proved to be a highly significant predictor of graft failure. Both, sepsis and rejection being linked to immune suppression, advances in research in to immune tolerance is much awaited

Evaluating the usefulness of a sonographic scoring system to predict malignancy in thyroid nodules with follicular proliferation

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Introduction: The Ideal surgery for a solitary thyroid nodule (STN) with follicular proliferation (FP) on cytology is debatable. Some surgeons offer total thyroidectomy while others offer lobectomy (low risk of complications, non-requirement of thyroxin etc) as most (80-90%) are benign on histology. However this might require a second (completion thyroidectomy) operation for the small proportion of patients found to have a malignant histology.

We aimed to evaluate the usefulness of a sonographic scoring system to predict malignancy in thyroid nodules with FP.

Methodology: This study was conducted among 108 patients who underwent total / hemithyroidectomy at the Colombo South Teaching Hospital from January 2010 onwards. Two consultant radiologists performed the ultra sound scans. A checklist with a scoring system which was prepared after a pilot study, was used for ultra sound scanning of the thyroid glands of patients. The checklist assessed 7 sonographic characteristics (total score = 14).

Results: Out of 108 patients, 17 had a FP on cytology. 7 out of them (41.6%) had follicular carcinoma. All patients with a score below 4/14 had a benign histology, while all above 10/14 had a malignancy (p= 0.004).

Conclusion: A low sonographic score in a patient with FP is likely to have a benign histology and vice versa. This scoring system would help those surgeons favouring a conservative approach to offer one-stage surgery for STN with a FP.

Early post-transplant urinary tract infections; impact on graft and patient survival

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Introduction: Sepsis is a major cause of morbidity and mortality following solid organ transplantation. Urinary Tract Infection (UTI) is the commonest form of infection encountered in the kidney transplant population. We studied our incidence of early (post-operative day 0-30) post-transplant UTI to identify potential risk factors and outcomes.

Methodology: A prospective analysis of 304 consecutive kidney transplants performed by the Colombo University Transplant Unit between January 2007 and March 2011 were studied. The mean follow up was 12(2-36) months.

Results: A total of 62 (62/304, 20%) early UTI were encountered in this cohort which included 15(5%) cases of graft pyelonephritis. In a multi-variate analysis, diabetes mellitus in the recipient (p=0.9), female gender (p=0.7), acute rejection requiring added immunosuppression (p=0.3) and pre-operative pyuria (p=0.6) were not significantly associated with early UTI. However, a transplant performed in the public sector set-up was found to be an independent risk factor (p<.001).

49/62(79%) of the UTIs were successfully treated with complete resolution while 6(10%) were associated with Primary Graft Failure (PGF) and 5(8%) with sepsis related deaths. One with PGF also died during follow up while 1 was re-transplanted after complete resolution of the UTI and 4 remain on haemodialysis.

Conclusion: The incidence of post-transplant UTI is high in our experience. Transplants performed in a limited resource public sector health care set-up appeared to be a significant risk factor. A better balance between aggressive treatment of UTIs and post-transplant

immunosuppressant needs to be achieved to minimize the UTI related graft loss and death.

Pre-transplant pyuria and its association with post-transplant urinary tract infections

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Introduction: Significant pyuria (pus cells >10 per high power field in a standard urinalysis) is a common finding among patients with End Stage Renal Disease (ESRD). The causative factors include low urine volumes, bladder stasis, underlying renal parenchymal disease, chronic haemodialysis, and latent or overt Urinary Tract Infections (UTI). Its presence often confounds the decision and timing of renal transplantation. We studied the possible association of pre-operative pyuria with the incidence of post-transplant UTI.

Methodology: 107 patients with ESRD presenting for renal transplantation to the Colombo University Transplant Unit were prospectively followed up. The study period was November 2009 through April 2011 with a mean follow-up of 9 (1-18) months. All those with significant pyuria were investigated to exclude a treatable cause (UTI, stones, tuberculosis etc.). If a treatable cause was identified, it was treated completely prior to transplantation.

Results: 17/107(16%) had significant pre-operative pyuria. The cause for the pyuria was UTI (n=4), stones (n=2) and unidentified (n=11). 24/107 (22%) developed post-transplant UTI during follow-up. A chi-square test showed no significant association of pre-operative pyuria (in the absence of an identifiable cause) with post-transplant UTI (p=0.7).

Conclusion: Significant pyuria is a common problem among patients with ESRD. While a strict investigation protocol should be adopted to identify a treatable cause, the absence of such

a cause should not delay or preclude transplantation.

Ultrasound guided aspiration of breast abscesses: is it an alternative for surgical drainage?

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Introduction: Traditional treatment of breast abscesses involves surgical drainage, but which could lead to considerable morbidity with longer wound healing, discomfort and fistulae formation. This study was conducted to determine whether ultrasonographically (US) guided needle aspiration of breast abscesses was an effective and an alternative to surgical drainage.

Method: In our prospective study of 12 lactating patients with 18 abscesses, treated initially by needle aspiration under US guidance, IV antibiotics and repeat aspiration (with US) when needed. If the patient was clinically deteriorating, the abscesses were surgically drained.

Results: All patients (24y – 38y) presented with a palpable mass. Two patients had multiple abscesses in which 4 small abscesses were detected only by US. 13 abscesses were < 3 cm, & resolved completely after aspiration. Of them 5 were aspirated twice. All were clinically asymptomatic within 2 weeks.

The other 5 abscesses > 3 cm, had septa / multiloculated in US. All these abscesses failed after aspiration and had to drain surgically. Total healing time of surgically drained abscesses was over 8 weeks and 2 had milk fistulae.

Conclusion: US guided aspiration of breast abscesses can enable diagnosis of small non-palpable abscesses and useful to treat small abscesses (< 3cm) if they are completely drained. Partial drainage of abscesses > 3 cm may be palliative, but incision and drainage still may be necessary for those as definitive treatment.

Iodine status and the prevalence of Autoimmune Thyroiditis in Sri Lanka

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Introduction: Main sources of Iodine in humans are diet and drinking water. Perusal of literature indicates 99.4% of Sri Lankan households use Iodized salt. Several studies have shown increased prevalence of AIT with excessive intake of Iodine.

Objective: To assess prevalence of AIT and its relationship to intake of Iodine in Sri Lanka.

Methodology: As a part of a descriptive cross-sectional study on the prevalence of goitre, prevalence of AIT was assessed by using 3 parameters (Clinical, Antibodies, Cytology). Country was divided into 6 zones according to geography and rain fall pattern. Blood, urine and drinking water samples were collected from individuals with goitre and field FNAC was performed. Urine samples were collected from randomly chosen 108 individuals as well. Preparations, transportation of samples were performed under standard protocol. Blood samples were tested for thyroid microsomal antibodies. Urine and water were checked for Iodine concentration. Positivity of two out of three parameters was diagnostic of AIT. Urinary Iodine concentration was considered as the indicator of Iodine status.

Results: 5200 participants were assessed (n=5200) island wide and 426 were detected with goitre. Prevalence of AIT was 33.7%. Mean urinary Iodine concentration was 218.33 micrograms/L and the strength of association (R) with AIT was 0.509. Association of prevalence of AIT and urinary iodine concentration was extremely significant (P=0.0001).

Conclusion: Increased level of urinary iodine is related to high prevalence of AIT. The long-term effects of this phenomenon require further study.

Liver resection in patients with cirrhosis: Safety profile in a general surgical setting

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Background: Liver resection in cirrhosis is technically demanding. Most patients with cirrhosis may not be offered liver resection because of potential risk of bleeding, liver failure and higher mortality

Objective: To compare early outcome following liver resection in patients with cirrhosis (Child's A) and without cirrhosis.

Methodology: Seventy five patients (35 males, 40 females, median age 50 years, range: 1 – 78 years) underwent liver resection for benign and malignant tumours of the liver. Early outcome of 9 patients with cirrhosis were compared with 28 patients without cirrhosis who underwent major hepatectomy. Their peri-operative mortality, blood loss and complications were evaluated.

Results: Median blood loss in patients with cirrhosis was 1000ml (range: 375 – 1250 ml) whereas of non cirrhotic patients was 625ml (range: 100 – 2500ml). No significant difference was found in the intra operative blood loss of cirrhotic and non cirrhotic patients who underwent major liver resection (p=0.189). There was no significant difference in the duration of surgery between cirrhotics (median: 3.5 hours, range: 2.5 -4.5 hours) and non cirrhotics (median: 4.5 hours, range: 2.5 – 6.5 hours) who underwent major resection. There were 2 peri-operative deaths in patients with cirrhosis which were not directly attributed to the surgical procedure.

Conclusion: Liver resection in patients with background cirrhosis can be performed safely in selected individuals. Having cirrhosis should not preclude selected patients from undergoing liver resection where indicated, even in a resource poor setting.

Outcome of abdominal sacro-colpo-rectopexy for multi-compartment pelvic organ prolapse following dynamic magnetic resonance (MR) assessment of the pelvic floor: A preliminary report.

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Introduction: The pathophysiology of pelvic floor weakness and multi-compartment organ prolapse is just being understood. Pelvic floor dynamic MRI (DMRI) offers detailed information useful in diagnosing sub-clinical multi-compartment organ prolapse. Sacro-colpo-rectopexy (SCR) addresses organ prolapse of all three pelvic compartments with a single procedure. This study assesses the symptomatic outcome of the procedure.

Methods: Women presenting to a colo-rectal clinic with posterior pelvic compartment symptoms (difficult evacuation requiring digital assistance), and no identified colorectal luminal pathology, underwent DMRI of the pelvis as part of their investigation protocol. The dynamics of each compartment were measured. A standardised pelvic floor distress inventory (PFDI), was used to score symptoms of each of the three compartments and assess quality of life before and after operation. Abdominal SCR was performed using a sling with prolene mesh. Pre and post operative PFDI was compared using the Wilcoxon signed rank test. Significance was assigned to a p-value of 0.05.

Results: Twelvewomen, median age 59.5 (43 to 76) years were studied. DMRI measurements showed anterior compartment prolapse in 7, posterior – 10 and middle compartment prolapse in 4. Mean post-operative follow-up time was 11.9 months. Symptom scores based on PFDI showed significant post-operative improvement in the posterior (p=0.004) and middle (p=0.025) compartment symptom scores. Anterior compartment symptom scores showed no significant improvement (p=0.27). Overall,

symptoms related quality of life scores improved significantly (p=0.042).

Conclusion: SCR, based on DMRI assessment of multi-compartment pelvic organ prolapse, offers significant improvement in posterior and middle compartments symptoms and quality of life.

Anatomical relations of the superficial sensory branches of the radial nerve; A cadaveric study

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Introduction: Anatomically, it is difficult to give a systematic description of the superficial branch of the radial nerve (SBRN). Our aim was to describe the exact relationship of the SBRN to fixed bony points of radial styloid and Lister's tubercle, and to cephalic vein. We also compared our data with other international studies.

Methods: The study was a descriptive anatomical study. Twenty-five forearms were dissected. Measurements were made from predefined fixed reference points.

Results: The mean distance to the point of emergence of the nerve from the radial styloid was 85.44mm (SD=13.24). The nerve branched at a mean distance of 55.67 mm (SD=14.27) from the radial styloid. The mean distance to the point where the most medial and most lateral branches of the nerve, measured from the Listers tubercle were 25.10mm (SD=5.33) and 39.01mm (SD=6.41). In 17 specimens (68%) cephalic vein crossed the SBRN superficially once. Mean distance from the radial styloid to the most distal point where the vein crossed the nerve was 50.99mm. Difference between mean distance to the point of emergence and branching point, when compared with Caucasian studies were not statistically significant. (P value > 0.05)

Conclusion: We recommend avoiding transverse incisions in the snuffbox region between 25.10mm and 39.01mm from the Listers tubercle. We also recommend avoiding cannulation of the cephalic vein in the distal forearm. There does not appear to be a statistically significant difference in the anatomy of the SBRN in Caucasian and Sri Lankan cadaveric studies.

Access recirculation (AR); can the three needle technique be used to screen for true AR?

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Introduction: AR is recommended as a method for regular monitoring of vascular access (VA). AR of <10% is acceptable. Increasing AR results in discrepancy of the prescribed and delivered dialysis. It may also point to a failing arteriovenous fistula (AVF). We compared the easy to do three needle method with the more complex but reliable two needle method in assessing AR.

Method: 11 consecutive patients, dialysed in a single centre, were selected. Blood urea was measured in arterial (A), venous (V), and Systemic arterial (SA) samples using the slow/stop flow method. A peripheral (PV) venous sample was taken immediately after. The AR was calculated using the following formula:

2 needle technique, $(SA-A)/(SA-V) \times 100$

3 needle technique, $(PV-A)/(PV-V) \times 100$

Results: Eleven patients (5 wrist, 5 cubital, 1 thigh) were studied. The average distance between placement of needles was 6.4 cm (2-15). The mean recirculation as measured with the 2 needle and three needle methods were 3% (0-16.3%) v 9.7% (0-29.3%) respectively. The only AR value >10% in the two needle method corresponded to the only AR value >20% in the 3 needle method.

Conclusion: The three needle technique is easy to perform but overestimates AR when compared with the two needle method. We recommend the three needle method to screen for rising AR so that the two needle method can be used sparingly

Femoro popliteal versus distal bypass grafts: How different are their outcome?

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Introduction: With the increasing prevalence of Diabetes mellitus, we see more cases of distal (tibio-peroneal) occlusive arterial disease, with extensive tissue loss, that require bypasses to distal tibial and pedal vessels. We examined the outcome of patients receiving a popliteal outflow (PO) graft versus those receiving a tibial/pedal (TPO) outflow graft.

Methodology: Data was prospectively collected from 232 consecutive patients, who underwent infrainguinal bypasses from March 2006 to March 2011, and were followed up for 3 months. Outcomes were compared between 113 PO and 119 TPO grafts.

Results: The group in general was elderly (median 63 y), with 73% being men. The TPO group was significantly older (Median age, 66 v 63, $P < 0.05$). Co morbid illnesses were Diabetes ($n=2$; 76.7%), Hypertension ($n=178$; 76.7%) and ischaemic heart disease ($n=148$; 63.8%). There were 113 Fem pop, 67 fem tibial/pedal, 52 pop tibial/pedal. 3 month cumulative graft patency rate was 90.1% (209/223). When PO was compared with TPO, the mortality ($P=0.11$), graft patency ($P=0.1$) and limb salvage ($p=0.16$) were not significantly different. However, the prevalence of Diabetes was significantly higher in the TPO group ($p < 0.001$). The amputation rates due to graft failure were similar in both groups ($p=0.16$)

Conclusions: The outcomes of both femoro popliteal and distal vessel bypass are similar

despite the distal bypass group being older and needing more complex surgery. The elderly diabetic population should benefit from our findings.

Early bedside removal versus delayed cystoscopic removal of ureteric stents following renal transplantation; a randomized controlled clinical trial

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Introduction: Major urological complications (MUC; ureteric leak / stenosis) are the 'Achilles heel' of renal transplantation. Routine stenting of allograft ureter has been shown to significantly reduce MUC. However, stenting also increases the incidence of post-transplant Urinary Tract Infections (UTI). Furthermore, they require invasive cystoscopic removal. We studied early bedside removal of the ureteric stent attached to the urinary catheter as an alternative to the standard technique.

Methods: Consecutive consenting transplants were randomized to delayed (day 21-28) cystoscopic stent removal (group-1) and early (day-07) bedside removal (group-2). In group-2 the ureteric stent was tied to the tip of the urinary catheter intra-operatively and was removed along with the urinary catheter at the bedside. Both groups were prospectively followed up for MUC and UTI.

Results: Eighty two (Group-1, 38; Group-2, 44) transplants between January 2010 and March 2011 were followed up [mean 6 (2-17) months]. No MUC were encountered during this period. There were 22/82(27%) culture proven UTIs during the period of follow up, 9/38 (24%) in Group-1 and 13/44 (29%) in Group-2, p=0.5.

Conclusion: Tying the ureteric stent to the urinary catheter intra-operatively and early bedside removal is a safe alternative to the conventional ureteric stenting. Its greater convenience to the patient and cost-

effectiveness to the institution are added advantages. Based on our findings, we recommend this as the standard method for stenting the allograft ureter.

Transanal Haemorrhoidal Dearterialization (THD) vs. Diathermy excision in the management of haemorrhoids : Results of an ongoing clinical study

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Introduction: Transanal Haemorrhoidal Dearterialization (THD) is a novel method first described in 1995. It claims advantages over Milligan-Morgan procedure and Stapled haemorrhoidectomy.

Method: Patients with grade 2 & 3 haemorrhoids were randomized in to diathermy excision (DE) or THD. They underwent clinical, endoanal ultrasound (EAUS) and anorectal manometry (ARM) assessment prior to intervention. All procedures (DE or THD) were carried out by a single consultant surgeon. Post operative pain was assessed using a visual analog scale. The 2 groups were compared using the Mann-Whitney test.

Results: 17 patients underwent randomization (DE= 8, THD=9). Mean age – 45.7 (SD=19.1, Range- 21-88) years. Male: Female 14:3. All patients had normal EAUS and ARM findings preoperatively. Pre-operatively mean severity score was 4.76 (SD=2.3, Range=1-9). Pain score on post op day 1 was higher in THD group but pain score on discharge was higher in DE group (p>0.5). Pain at 2 weeks post operatively was lower in THD group (p=0.041). Length of hospital stay was also less in THD group (p=0.03).

Conclusions: THD offers significant advantages over DE in terms of post operative pain and hospital stay. However, patients need to be followed up for longer to identify the medium and long term success and adverse effects of the procedure.