Conclusion While prevalence of plaque is higher in IA, we found no evidence of an altered plaque distribution or higher frequency of bilateral carotid disease.

p137 **Prophylactic placement of carotid endovascular covered stents to prevent carotid blowout syndrome: Safety and efficacy in a single centre**

Scott Rice; Zach Saloojee; Luke Williams; Joe Brookes; Colin Hopper

University College London Hospitals

Introduction: Carotid blowout syndrome is a potential complication of advanced head and neck malignancy resulting in significant morbidity and mortality. Traditional management focused on surgical ligation of bleeding vessels in the acutely bleeding patient. This study reports the experience of using endovascular covered stents placed under radiological guidance to manage threatened carotid blowout.

Methods: Departmental database identified 21 patients who had radiological insertion of endovascular covered stents in the setting of advanced head and neck malignancy over a seven year period. The clinical notes were studied to identify any recorded complications arising from this procedure and the incidence of bleeding following stent placement.

Results: 21 consecutive patients were identified for inclusion in this study. Mean survival following stent placement was 242 days. Complications arising from stent placement included minor stroke presenting as dysarthria that resolved and one stroke resulting in mild right sided weakness that resolved. There was one mortality from a medical complication in the intensive care setting on day one post stent placement. No patients experienced bleeding from the head and neck following stent insertion.

Conclusions: Carotid blowout is the worst case scenario for end stage head and neck cancer. Radiologically inserted endoluminal covered stents are a useful adjunct in the management of carotid blowout in the context of advanced head and neck malignancy.

p138 **Role of interventional radiologist on-call as part of unstable trauma team**

Krit Dwivedi; Joe Kaczmarczyk; Stephen Goode; Trevor Cleveland; Steven Thomas; Daniel Kusuma; Douglas Turner; Mark Regi

Sheffield Vascular Institute

Background: Endovascular management of bleeding in trauma is well described. It offers reduced operating time, blood loss, lower mortality and length of stay compared to open surgical intervention. It potentially enables faster time to haemostasis, particularly in anatomically challenging sites such as subclavian, carotid arteries or solid organs. The role of CT in major trauma is well proven. However, currently the role of the Interventional Radiologist in acute trauma is not centrally defined or recognised.

Method: We implemented a system in which the Interventional Radiology (IR) consultant was pre-alerted in acute unstable trauma, being onsite within thirty minutes and being first reader of the unstable trauma CT. In parallel, the IR team would prepare the cath lab, should the case proceed to intervention. We audited pre-alerts received and interventions performed.

Results: In one calendar year (2014), the system had 50 pre-alerts for unstable trauma, requiring the IR consultant to be present. 13 of the cases proceed to intervention. In total, including stable cases, there were 23 interventions.

Conclusion: We highlight three reasons for the on-call IR consultant to be a central member of the acute trauma team, with a defined pre-alert system. Firstly, in all situations, having the consultant as first reader of the trauma scan enables expert assessment, improve accuracy of reporting. Secondly, in cases requiring intervention, this expedites and avoids delay, enabling better clinical outcomes. Thirdly, such a mechanism highlights the importance of the IR service and places its role central in the management of haemodynamically unstable patients.

GI UROLOGY and OBSTETRICS & GYNAECOLOGY

p139 **Dual lateral decubitus CT colonograpy is preferable to supine-prone scanning in obese and/or frail patients**

Andrew Macallister; Monique Vekeria; Paul McCoubrie

North Bristol NHS Trust

Background: CT colonography (CTC) image quality is dependent on good quality colonic insufflation. Currently, additional decubitus scans are performed when suboptimal images are obtained with prone and supine positions. Supine-prone imaging in the elderly and obese is often difficult and suboptimal (Buchach et al., 2011). We evaluated our practice of performing dual decubitus positioning in these patients.

Method: This was a single-centre retrospective review of 181 consecutive CTCs. Demographics, patient body mass index and scan positions were recorded. Adequacy of insufflation of each colonic segment was assessed using a validated 4 point scale (Burling et al., 2006).

Results: Mean patient age was 69.7 years (range 34-88, IQR 17) and mean BMI was 27.5 (range 15.4-55.4, IQR 6.8). 94 patients had a supine-prone scan only and 57 patients had a dual lateral decubitus scan only. The primary dual lateral decubitus scan group had a higher mean age (74.4 vs 66.3) and BMI (29.5 vs 25.7) compared to the primary supine-prone group. 30 (16.6%) patients required a third scan in addition to a primary dual lateral decubitus or supine-prone scans and these were split equally between the two groups. Mean colonic insufflation in the dual decutibus group (left lateral decubitus 3.48, right lateral decubitus 3.55) was equivalent to that of the supine-prone group (supine 3.50, prone 3.50).

Conclusion: Dual lateral decubitus positioning in obese and/or frail patients produces good colonic insufflation. This avoids the requirement for additional scans thereby reducing scan time and dose.

1. Buchach C, Kim D, Pickhardt P. Performing an additional decubitus series at CT colonography; Abdominal Imaging 2011; 36:538-544 2. Burling D, Taylor SA, Halligan S et al. Automated Insufflation of Carbon Dioxide for MDCT Colonography: Distension and Patient Experience Compared with Manual Insufflation; AJR 2006; 186:96-103

p140 **A pictorial review of the imaging features of treated hepatocellular carcinoma**

Azadeh Taheri

Whiston Hospital, Rainhill

Hepatocellular carcinoma (HCC) is the most common primary tumour of the liver. Although there can be varying imaging features, several international working groups have developed criteria for "classical" radiological features that help radiologists and clinicians be more confident in making a diagnosis on imaging features alone. Whilst these guidelines are helpful in the initial stages of diagnosis, the evolution of imaging features after treatment may not be as clear. One of the challenges the radiologist must face is determining whether there is evidence of recurrence, or if the imaging changes are related to treatment. Treatment options themselves are varied -- radiofrequency/microwave ablation, percutaneous ethanol ablation, and trans-arterial chemoembolisation are often utilised in lieu of traditional surgical resection. It is therefore important for the radiologist reporting these scans to not just be made aware of the treatment in the clinical history, but to have a basic understanding of the techniques employed and the resultant imaging changes that result during follow up. In this pictorial review, we will give a basic overview of the classical radiological features of HCC. We will also give an overview of the interventions mentioned above, and present images of their effects on imaging in subsequent follow up scans, which will aid the reader in differentiating between recurrence, and expected post-treatment change on follow-up scans.

p142 **The appropriateness of paediatric ultrasound kidney ureter and bladder requests in the primary care setting**

Vishnu Naidu; Sharenja Jeyabaladevan

Princess Alexandra Hospital NHS Trust

Background; The Ultrasound (US) guidelines for UTIs in children between 3-16 are very specific (1, 2). To be considered for an US scan (USS), children must suffer from "recurrent UTIs": (≥3 lower urinary tract infections (UTI); or ≥ 2 upper UTIs, or one upper UTI and ≥1 lower UTI). An USS must be done within 6 weeks. In general practice (GP), kidney and bladder ultrasounds accounted for 30% of the total radiology requests in 2015/16 (3).

Method: Patients in one primary care centre were identified over a 10-year period (from 31st October 2006-1st November 2016). The criteria for inclusion included (1) having an "US Kidneys Ureter and Bladder" or US Urinary Tract" and (2) being between 3-16 years of age during the scan. The appropriateness of the USS request and the time to USS was investigated.

Results: 52 patients fit the inclusion criteria. 21 patients were excluded for various reasons, leaving a total of 31 patients. 8/31 patients were correctly referred. Of these, 2/8 had abnormal scans. Of the 23/31 patients who did not fit the criteria only 2 had abnormal scans. 20/31 patients received an USS within 6 weeks, with 8/31 between 6-7 weeks and 3/31 over 7 weeks.

Conclusion: The adherence to NICE/iRefer guidelines is poor. A higher proportion of scans were abnormal in those who met the referral criteria when compared to those who didn't. The majority of patients had a USS within 6 weeks. Awareness of referral criteria will mean that less unnecessary scans are done.

1. NICE guidance 'Urinary tract infection in under 16s: diagnosis and management' Clinical guideline [CG54] Published date: August 2007 2. Diagnostic Imaging Dataset Annual Statistical Release 2015/16, NHS England, available at https://www.england.nhs.uk/statistics/wp-content/uploads/sites/2/2015/08/Annual-Statistical-Release-2015-16-DID-PDF-1.5MB.pdf 3. Irefer.org.uk [cited 14 December 2016]. Available from: http://www.irefer.org.uk/

p143 **Percutaneous nephrostomy service: A retrospective analysis**

Taryn Kalami; John Colville; David Jarosz; Simon Burbidge

Leeds Teaching Hospitals NHS Trust

Aim: To audit the performance of the percutaneous nephrostomy service in Leeds Teaching Hospitals. Audit standards for performance and complication rates are based on the UK national nephrostomy audit 2007 and the American College of Radiology practice parameters.

Method: All patients who underwent a percutaneous nephrostomy between October 2014 and October 2016 were included in the audit. Data with regards the indication for nephrostomy, time of day, blood results, seniority of the individual performing the procedure, complications and death within 30 days of the procedure were audited.

Results: 364 patients were audited. The most common indication for nephrostomy was malignancy (47%) followed by calculi (21%). 74% of patients had deranged renal function pre-procedure. 1% of patients had haemorrhage post treatment with 1 patient experiencing major haemorrhage. A number of patients sustained a minor complication with malposition or dislodged nephrostomy post procedure. The vast majority of procedures were performed by a consultant radiologist within working hours. 8% of patients died within 30 days of their nephrostomy insertion.

Conclusion: The nephrostomy service provided in Leeds Teaching Hospitals is comparable to other UK centres. Audit findings suggest we are providing predominantly a consultant lead service within office hours. Major complication rates are very low and within the threshold reported in the literature by the American Society of Radiologists.

p144 **Can ADC predict prostate cancer and aggressiveness of the disease? Retrospective study in assessing the positive predictive value of the ADC value in diagnosing prostate cancer and its correlation with the disease aggressiveness**

Soek Leng Mui; Shyam Sunder

Pennine Acute Hospitals NHS Trust

Background Current PIRADS guidelines for evaluating prostate cancer are more heavily reliant on the T2 and DWI sequences compared to the ADC. Furthermore, the ADC value is not routinely measured in day to day reporting. It is thought that the ADC value should have a more vital role in the diagnosis of prostate cancer.

This study is done to evaluate the positive predictive value of the ADC in diagnosing prostate cancer and to assess the correlation of ADC values with the aggressiveness of the disease.

Method Retrospective study of 50 patients with histologically proven prostate cancer. The MR scans are reviewed and ADC values measured by 3 radiologists who are blinded to both the sites of the cancer and the Gleason scores. The cut-off value of the ADC for the diagnosis of prostate cancer for this study is 900mm^2/s. Based on this, the positive predictive value of the ADC value is calculated. The ADC values obtained are also correlated with the Gleason scores.

Results The initial empirical results have been promising. Nearly all malignant lesions seen on the pilot study have ADC value less than 900 mm^2/s, and where there is extra-prostatic extension, values have been less than 700 mm^2/s.

Conclusion Each institute involved in prostate MRI cancer reporting should look at the absolute ADC value, based on histology review, and establish their own cut off ADC values. This would enable us to prognosticate better, prior to biopsy and histological confirmation.

p145 **Pictorial review of visceral/atypical metastatic disease in prostate cancer**

Hannah Marsh; Mark Hawkins

Great Western Hospital, Swindon

Background: Advanced prostate cancer has a well-recognized pattern of metastatic spread to bone and regional lymph nodes. Studies have shown that rates of non-skeletal metastases are probably increasing, with the prevalence of visceral disease in prostate cancer being reported to be between 20 and 46% in patients with advanced disease. The presence of lung and liver metastases are most common, but, irrespective of site, the presence of visceral metastatic disease is a marker of poor prognosis in prostate cancer, with a reduction in overall survival.

The increase in visceral and atypical metastases may in part be due to the increased utilization of cross sectional imaging in prostate cancer and detection of previously undiagnosed visceral metastases. However, with emerging treatments and improved outcomes, it has also been suggested that changes in the natural history of metastatic disease in patients with prostate cancer could be changing as result of longer survival.

The current understanding of visceral metastatic disease in prostate cancer is poor. Improved awareness of the atypical metastatic manifestations of prostate cancer will enable accurate staging and therefore prognostication, and will facilitate the development of new, targeted treatments.

Purpose: To illustrate and review atypical and visceral metastatic disease in prostate cancer, with images selected from the recent experience of a District General Hospital Radiology Department.

Summary: We present a review of atypical and visceral metastatic disease in prostate cancer.

p146 **Does giant multilocular prostate cyst adenoma respond to LHRH or is it a case of mistaken diagnosis of prostate cyst adenocarcinoma, both rare cases**

Abeeku Hammond

University Hospital South Manchester

Prostatic cyst adenomas and cystadenocarcinoma of the prostate are rare tumours of the prostate with few reported cases all over the world. Few literatures have reported mixed response of prostate cyst adenoma with LHRH, is it a case of mistaken diagnosis considering the rarity of both cases. We report a case of both cases where prostate cyst adenocarcinoma respond well to LHRH but prostate cyst adenoma doesn't. The first case is a 59 year old Caucasian man presented with both worsening lower urinary symptoms and high PSA. The prostate was enlarged and TRUS biopsy revealed a small foci of 3+4 (mostly 3) adenocarcinoma prostate. MRI requested for staging showed a large multi-cystic mass lesion arising from lateral aspect of base of prostate. LHRH shrunk the mass and repeat MRI 3 months showed improvement of the peripheral zones that contained the carcinoma. PSA was also unrecordable. The second is a 79 Year old seen as a case of a rising PSA. MRI diagnosed large cystic and solid mass arising from the prostate and extending to the abdomen. TRUS biopsy plus aspiration of the fluid from the multiloculated cyst showed benign cystic adenoma with no evidence of any malignancy. He was put on LHRH and repeat MRI in 6 months showed multiloculated cyst adenoma of the prostate appears stable with no significant reduction in size. Rarity of both diseases makes misdiagnosis a possibility and reported cases of giant multilocular prostate cyst adenoma might actually be a prostate cyst adenoma carcinoma

1. Maluf, H.M., et al., Giant multilocular prostatic cystadenoma: a distinctive lesion of the retroperitoneum in men. A report of two cases. Am J Surg Pathol, 1991. 15(2): p. 131-5. 2. Allen, E.A., et al., Multilocular prostatic cystadenoma with high-grade prostatic intraepithelial neoplasia. Urology, 2003. 61(3): p. 644. 3. Datta, M.W., et al., Giant multilocular cystadenoma of the prostate responsive to GnRH antagonists. Urology, 2003. 61(1): p. 225

PAEDIATRICS

p148 **The use of sedation in non-accidental injury skeletal surveys?**

Angela Staley [1]; Vanessa Waspe[2]

[1]*Nottingham University Trust;* [2]*Nottingham University Hospital*

Purpose: Skeletal surveys are lengthy and often distressing examinations. This is a very emotive time for the families / carers. It is also difficult for staff involved with increased allegations being made against radiographers. High quality images are essential for accurate diagnosis, to avoid misdiagnosis and ultimately to protect the child. Poor radiography has been highlighted in high profile safeguarding cases. The required time to perform a SKS, leads to X-ray rooms being occupied for lengthy periods, impacting on our other services users. Historically, the CT was performed under sedation prior to the SKS examination. A decision to reverse this process was taken. Evaluate this change of practice.

Methods: We collected the data from examinations pre and post-trial. This included the timings in department, the dose and type of sedation prescribed. Survey Monkey was used to gather information from other external centres on their practise with regard to sedation. Survey Monkey was used to capture the views of the nursing staff that accompanied the patients within our Trust.

Results: The time the patient spent in the department was reduced when sedated correctly. All CT head scans performed was still successful The survey from the nurses within our Trust favoured our change of practice.

Conclusion: Our change in practice has had a positive impact on the service we provide. The survey showed other centres were overwhelmingly opposed to the use of sedation. We developed a sedation protocol for the medics to follow on the wards ensuring the correct doses were given.