P-075 **Constrictive pericarditis - imaging review**

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Aim: We aim to review all the imaging findings of constrictive pericarditis in various modalities.

Content: The imaging features of constrictive pericarditis is reviewed in all modalities including plain radiography, CT, MRI.

Relevance: Constrictive pericarditis is a clinical entity and is poorly understood by clinical radiologists as imaging features are only a supplement to the presenting signs. A variety of imaging features can help in making diagnosis of constrictive pericarditis or indicate the possibility of the diagnosis in the unsuspected cases. The review of imaging features on plain radiography, CT and MRI is intended to help the radiologists and trainees to reinforce their knowledge and to stress the importance of assessing the pericardium and heart routinely in reporting cross sectional imaging.

P-076 **Morbidity and mortality associated with contrast venography proven distal deep vein thrombosis - a cause for concern?**

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Aims: To assess the effect of the presence and locality of deep vein thrombosis (DVT) on mortality and morbidity in a cohort of symptomatic patients investigated by contrast venography, particularly with a view to prevalence of post-thrombotic syndrome (PTS).

Methods: By retrospective case note evaluation and examination of mortality data, 347 patients with venography proven DVT were matched with venography negative controls. Long term complications including recurrent thromboembolic events and post-thrombotic syndrome were recorded, as well as mortality data.

Results: Of the DVT proven patients, 179 (51.6%) were deceased, with 8.5% a consequence of DVT or pulmonary embolism (PE). 23.3% of patients with proximal DVT suffered recurrent DVT as opposed to 12.6% in those with isolated below knee DVT. The 5 year survival of the below knee group was 64%, whilst the above knee survival was 74%. The relative risk for developing definite PTS was 0.544 for below knee DVT versus the above knee group.

Conclusion: As expected, morbidity is greater in the form of PTS in those patients with proximal DVT, however a smaller but significant proportion of patients with distal DVT also develop PTS, demonstrating the need for vigilance for this condition in order to correctly manage patients.

Clinical: Uroradiology; gynaecology; obstetrics

P-077 **An audit of ultrasound scanning using the Foetal Anomaly Screening Programme (FASP) Image Assessment Tool 2012**

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Introduction: Accurate measurement of the foetal ultrasound components Nuchal Translucency (NT) and Crown Rump Length (CRL) are of great importance. Precise dating is required using CRL so that NT thickness can be compared to a reference range. Increased NT is linked to the presence of Down Syndrome. An audit standard, the Foetal Anomaly Screening Programme (FASP) Image Assessment Tool 2012, sets out the required scan criteria. It was used to measure ultrasound scans performed in a busy ultrasound department before and after ultrasound in service training.

Method: A retrospective audit of 100 nuchal scans, pre and post-training was performed. Component parts and overall images were scored against set criteria in FASP.

Results: The mean for meeting the audit standard across the 6 CRL criteria was 80% and, across the 4 NT criteria 82%, before training. After training the mean for CRL was 84% and NT 89%.

Conclusion: The percentage meeting the audit standard improved after training demonstrating the effectiveness of training. The two components which were difficult to scan correctly may warrant a discussion on their importance.

However, audits are judged against complete compliance therefore further improvement is needed to assure that all scans are 100% correct according to FASP. A re audit is recommended following further training.

P-078 **Pearls and pitfalls of female pelvic MRI: A whistle-stop tour from a district general hospital perspective**

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Aims and content: To provide an educational tool for assessment of the female pelvis with MRI through a comprehensive pictorial review and highlight cases with potential for misinterpretation.

Relevance: The requirement for pelvic MRI has dramatically increased in recent years due to the routine staging of most gynaecological malignancies but also the assessment of candidates for uterine artery embolisation (UAE). Pressures on tertiary centres and the ethos of patient focused care with local imaging where possible, have seen a perceived “specialised” service become the realm of theDistrictGeneralHospital.

Accurate pre-treatment diagnosis is essential. In those referred for UAE, appropriate steps should be taken to ensure bleeding irregularities are not due to pathology other than fibroids. MRI may alter management in 20% of those referred for UAE.

Outcomes and discussion: Knowledge of patterns of disease is key to accurate pre-operative staging in malignancy, but an understanding of anatomical variants and benign processes is imperative in imaging interpretation. The female reproductive organs are frequently imaged incidentally when staging other neoplasms or during musculoskeletal MRI and thus regardless of radiological specialty, an awareness of these structures should be considered a core skill.

We perform MRI as a standard staging tool in all gynaecological cancers other than ovarian. We have an established UAE service with all candidates undergoing pre and post interventional MRI and we are increasingly imaging for subfertility. Through our wealthy imaging bank we take you on an educational journey through the female pelvis, emphasising clinical relevance and lessons learned.

P-079 **Unusual manifestations of endometriosis and their imaging appearanceshiding?**

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Aim: To present review of the common and uncommon presentations of endometriosis and their imaging appearances on various modalities.

Content: We present a review of cases of endometriosis with common and unusual presentations and their imaging findings on US, CT and MRI. The unusual presentations include scar endometriosis, bowel serosal endometriosis, peritoneal endometriois etc.

Relevance/impact: Endometriosis is commonly diagnosed and is known to have unusual presentations and the knowledge of this is important for general radiologists commonly involved in reporting cross sectional imaging. Unusual manifestations of endometriosis can include involvement of bowel, scar tissue, peritoneum and other solid organs. Some of these may mimic pathology in other organs/sites involved or are identified incidentally on imaging. This review is aimed at summarizing the unusual sites of endometriosis and would serve as an invaluable educational tool in differentiating from other pathologies.

P-080 **Beware the mucinous ovarian tumour - ovarian, colonic or pseudomyxoma?**

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Aim: To raise awareness of the CT appearance of ovarian metastasis which are of colonic or appendiceal origin.

Content: We present CT images from seven patients from our institution with ovarian tumours which were initially reported as primary ovarian origin. The histology obtained from peritoneal biopsies or ovarian cystectomy demonstrated that these were mucinous and considered likely of gastrointestinal origin. In four patients a review of the CT demonstrated previously unreported colonic tumours. In a further three patients colonoscopy was normal, but two of these were subsequently diagnosed with pseudomyxoma.

Relevance: Many ovarian cancers present at an advanced stage with a large complex ovarian cysts, ascites and omental thickening on CT. Metastases to the ovary from colonic or ruptured appendiceal tumours often have similar

appearances. Tumour markers cannot help differentiate the primary. Patients with ovarian metastasis from colonic tumours have a poor prognosis. Patients with no colonic cause found on CT or colonoscopy should have their appendix assessed at laparoscopy to assess the presence of an appendiceal mucocoele and or pseudomyxoma peritonei which requires an extensive and radical therapeutic approach.

Discussion: This presentation demonstrates the importance of a multidisciplinary approach to ovarian tumours. The radiologist needs to be aware of the colon as a review area when reporting CT scans in patients with mucinous ovarian tumours. Appendiceal assessment should be mandatory if conventional investigations yield no positive result.

P-081 **The clinical value of adding diffusion weighted imaging to standard T2 weighted sequences in the evaluation of prostate cancer with MRI**

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Introduction: Multiparametric (diffusion weighted and contrast enhanced) MR imaging in prostate cancer is becoming more widespread. Diffusion weighted imaging (DWI) is more rapidly acquired and less technically complex than contrast enhanced imaging and hence is more widely utilised in both the tertiary centre and the district general hospital.

Content: We present a series of cases where DWI made a significant impact on management decisions, either increasing imaging confidence or identifying occult tumours not sampled on standard templates (which can than be targeted for biopsy). We also show the limitations of DWI in its sensitivity to artefacts and its occasional failure to identify even quite high grade tumours.

Discussion: DWI sequences can add significant clinical value for prostate imaging. DWI can augment information obtained from T2 weighted sequences and also add new information, particularly in the central/anterior part of the prostate gland. DWI may also correlate more closely with Gleason grade than standard T2W sequences. Also, for accurate image interpretation, knowledge of DWI pitfalls is essential.

P-082 **Rapidly developing renal milk of calcium in a patient with myelomonocytic leukaemia**

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Milk of calcium is a viscous colloidal suspension of calcium carbonate, phosphate or oxalate, or a mixture of these compounds. It can be found in the urinary tract, gastrointestinal tract, bronchogenic and adrenal cysts. We are uncertain how milk of calcium is formed however obstruction and infection are usually key factors. We describe a rare case of rapidly developing renal milk of calcium in a patient with myelomonocytic leukaemia. The patient presented to hospital with left iliac fossa pain and worsening renal function.

Two non contrast CT scans were performed on separate admissions five weeks apart, the second scan identified dense layering of a viscous calcium compound in a dependent distribution in the renal collecting system described as renal milk of calcium. Unique to this case, this phenomenon had not been found in the first scan indicating the rapidity in which the calcium compounds can form and precipitate.

Despite previous descriptions of renal milk of calcium, there have been no apparent medical treatments found, except symptomatic management. In extreme cases urosotomies and nephrectomies have been performed with some success. Therefore renal milk of calcium should be regarded as a rare differential diagnosis in patients with apparent ureteric obstruction to avoid unnecessary treatments such as shock wave lithotripsy.

P-083 **MR imaging of penis - what a general radiologist needs to know?**

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Aims/objectives: To outline the role of MRI in diagnosis of penile conditions and describe the appropriate imaging protocol and imaging features of the common pathology encountered.

Content: We aim to familiarise the general radiologist with a review of the normal anatomy and imaging protocols and sequences used. Also a review of common and less common pathological entities eg., cysts, penile carcinoma, TCC of urethra, peyronies disease etc in the form of a pictorial review is included with relevant imaging features.

Relevance/impact: Trainess and radiologists are regularly involved in reporting cross sectional imaging however as the imaging for penile pathology is performed less frequent than other parts of the body, it is important to be familiar with imaging protocols, anatomy and the common pathological entities of penis. This educational exhibit is intended to summarise the same and serve as a refresher.

P-084 **Clinical mimics of nephrolithiasis - findings on unenhanced CT of the urinary tract**

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Introduction: Unenhanced CT of the urinary tract is a well established, low dose technique for the detection of renal calculi in those patients who present with the typical clinical signs and symptoms of renal colic.

Content: We present a pictorial review of unenhanced CT examinations performed for the detection of urinary tract calculi, which have uncovered alternative renal pathology as a mimic of nephrolithiasis, including sepsis and malignancy.

Discussion: With the increasing use of low dose, unenhanced CT for the exclusion of renal calculi, radiologists must be aware of alternative pathologies that can be demonstrated on these examinations. It is also important to acknowledge the limitations of the non-contrast images, and as such, it is often necessary to recall the patient for further imaging.

P-085 **Emphysematous infections of the abdomen and pelvis on plain films, ultrasound and cross-sectional imaging: A pictorial review**

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Introduction: Emphysematous Infectious conditions of the abdomen are relatively rare in non-diabetic patients and may pose a diagnostic challenge for the radiologist to look for the possible cause. Awareness of these entities and knowledge with high index of suspicion is very important as there is significant morbidity and mortality associated with these conditions.

Aims/objectives: The goals are to describe the epidemiology, etiopathogenesis, and clinical manifestations of common emphysematous infections of the abdomen and to provide a comprehensive review of their imaging spectrum.

Methods: This pictorial review focuses on the multimodality imaging spectrum of various emphysematous infections such as emphysematous pyelonephritis, emphysematous pyelitis, emphysematous cholecystitis, emphysematous cystitis, and very rare emphysematous adrenalitis. The role of imaging-guided interventions in the diagnosis and management of these conditions will be described. We emphasise that the knowledge of the pathophysiologic characteristics, common predisposing conditions, and typical imaging features associated with gas-forming infections is crucial. We will also briefly discuss the microbiology spectrum in diabetic and non-diabetic patients.

Conclusion: Emphysematous infections of the abdomen may present with a wide spectrum of clinical and imaging findings. Knowledge of salient imaging features of these entities and their associated complications is of utmost importance, which impacts prognosis and management. It is of paramount importance for the radiologist to raise the alarm quickly, for these conditions on the basis of plain film and escalating for cross sectional imaging by being pragmatic in their approach. These potentially life-threatening conditions require aggressive medical and often surgical management.