



Many of these new technologies lead to artefacts on subsequent CT imaging which, unless the reporting Radiologist is aware of the endoscopic procedure, can be misinterpreted as active haemorrhage. Here we present a pictorial review of cases where artefact from endoscopic procedures has led overcalls of active contrast extravasation and the lessons learned from these cases.

P089 Non-specific upper GI mural thickening on CT - is it just from peristalsis?

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Background: Non-specific upper GI mural thickening on CT is a common abnormal finding, raising the suspicion of upper GI malignancy. The correlation between this finding and an endoscopic diagnosis of malignancy is not clearly known.

Method: A retrospective single centre study of patients referred for gastroscopy with the indication of 'abnormal imaging' (n=147) over a 3-year period (2016 to 2018) was performed. Patients with a CT reported finding of 'mural thickening' were included for analysis (n=59).

Results: Site of CT reported mural thickening: oesophageal 20, GOJ 9, gastric 23, pyloric 4, duodenal 5 and jejunal 1. Median time from CT to endoscopy: 21 days (IQR 12 - 54). Median age: 77 (IQR 62 - 83). Initial indication for CT included: weight loss 16, abdominal pain 14, possible malignancy 6 and dysphagia 3.

11 patients had a normal gastroscopy, 24 showed oesophagitis or gastritis, 20 had a hiatus hernia and 5 had benign polyps. 5 had a histological diagnosis of gastric adenocarcinoma, 4 of Barrett's oesophagus and 1 of squamous dysplasia.

Those with adenocarcinoma could not be accurately differentiated by indication for imaging (abdominal pain 2, weight loss 1 and non-GI or systemic related symptoms 2).

Conclusion: Upper GI mural thickening on CT correlated with malignancy, dysplasia or metaplasia in 10/59 (17%) patients in this study. Patients with malignancy could not be accurately differentiated by indication for imaging. Owing to this high concordance, we recommend gastroscopy is performed in every case when mural thickening is detected incidentally.

P090 Do I really need to go to the toilet eight times tonight? Quality of CT colonographies in patients with or without laxative bowel preparation

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Introduction:

- The CT colonography (CTC) is used to detect colonic tumours
- Prior to the CTC, patients are instructed to consume oral contrast (e.g. Gastrografin), and in some centres, also laxative bowel preparation (LBP) (e.g. Citrafleet)
- However, LBPs commonly cause patient discomfort, dehydration and electrolyte abnormalities
- We investigated whether LBPs affected the quality of CTCs.

Methods:

- We retrospectively identified all patients aged >75 who had a CTC in the Pennine Acute Trust between September and December 2017, and recorded whether they had Citrafleet
- The quality of faecal tagging was determined by calculating the average CT attenuation of tagged faecal matter across the ascending, descending and distal colons
- The extent of bulky faecal residues was classified into none, slight, moderate or severe.

Results:

- 25 patients received both Citrafleet/Gastrografin, whereas 57 patients only received Gastrografin during the study period
- The quality of faecal tagging was significantly better ($P = 1.06 \times 10^{-4}$) in patients who received Gastrografin only (694.0 HU; 95% CI 612.8-775.3 HU vs 409.8 HU; 95% CI 308.9-510.6 HU)
- The number of patients with moderate or severe bulky faecal residues was 3 in the Citrafleet/Gastrografin group and 12 in the Gastrografin-only group ($P = 0.5356$).

Conclusion:

- Taking LBPs prior to CTCs does not significantly improve the quality of the CTC, but is associated with a significant side effect profile
- We recommend that all UK centres should protocol their CTCs such that patients only receive Gastrografin prior to their CTCs.

GU & URO

P091 The effect of rectal size and shape on bladder deformation in urinary bladder radiotherapy

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Objective: To identify any significance in the relationship between rectal consistency and bladder deformation with a view to reconsidering appropriate treatment margins. The bladder is subject to variation in shape and size and can be influenced by adjacent organs, notably the rectum. An earlier study showed improve consistency in rectal diameter and content between planning and treatment with the use of a micro-enema.

Methods: Control group consisted of patients asked to empty their bladder immediately before planning and treatment. An intervention group consisted of patients asked to use a micro-enema 20 mins prior to planning and each treatment. Treatment CBCT images were analysed on-line using an automatic match algorithm to provide a rigid bone registration and a 3mm Action level and a CTV coverage check. Retrospective analysis was carried out on 97 CBCT scans, control group (n = 41) and intervention group (n= 56). Volume and positional organ variations were determined from the rigid bone registration of CT and CBCT. Centre of mass shifts (CoM) for bladder and rectum were determined in the X,Y and Z axis and the magnitude of CoM shift and Dice similarity coefficient calculated.

Results/conclusion: The introduction of a micro-enema shows significant worsening of bladder and rectum stability. The significant result for correlation between rectum changes in the Y and Z directions and bladder CoM shift in the same direction suggest that the use of micro-enema may destabilise the rectum. Bladder radiotherapy may benefit from daily imaging with appropriate justification and optimisation of imaging.

P092 Seminal vesicle volume variability in patients receiving radiotherapy to the prostate

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Introduction: Prostate positional variability has been widely explored with seminal vesicle (SV) variability only coming into the forefront in recent years. The effects of bladder and rectum volumes on prostate and SV motion have led to PTV margin changes and preparation protocols. There is far less evidence on SV variability than prostate, and the studies that exist (Deurloo 2005, Stenmark 2012) have looked at SV position only and not volume variability.

Aim: The aim of this study was to investigate whether interfraction volume variability of the seminal vesicles can exist in patients receiving radiotherapy to the prostate.

Method: SV variability was investigated by comparing 4 on-treatment Cone Beam Computer Tomography (CBCT) scans to a planning Computer Tomography (CT) image for two patients receiving prostate radiotherapy. Volumes (cm³) were compared, and Dice Similarity Coefficients (DSC) calculated to identify positional variations between CBCT and planning CT.

Results: SV volume variability was seen in both patients with the largest change in volume being 78.38%. DSC also showed positional variation in both patients which was much greater in one patient than the other.

Conclusion: This study found that there is potential for daily SV volume variability in patients receiving prostate radiotherapy. Future large scale studies using Magnetic Resonance Imaging are warranted to identify the extent of this motion and potential clinical impact. Evidence-informed PTV margins and possible SV volume control protocols may need to be adopted depending on the findings of further studies.

1. Deurloo, K, Steenbakkens, R, Zijp, L, de Bois, J, Nowak, P, Rasch, C, van Herk, M. (2005) Quantification of shape variation of prostate and seminal vesicles during external beam radiotherapy. *Int J Radiat Oncol Biol Phys.* 61(1). 228-238

2. Stenmark, M, Vineberg, K, Ten Haken, R, Hamstra, D, Feng, M. (2012) Dosimetric implications of residual seminal vesicle motion in fiducial-guided intensity-modulated radiotherapy for prostate cancer. *Med Dosim.* 37(3), 240-244

P093 Development of a bowel toxicity sheet for patients undergoing pelvic radiotherapy

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Background: With the introduction of FFF radiotherapy for prostate patients, acute side effects were being seen earlier in treatment. Frequent staff changes between machines made it increasingly difficult to keep track of how the patients were progressing, what advice had been given and what was appropriate to advise based on the patient's normal status. Although there was a basic toxicity record sheet in place for pelvis patients a more thorough way of documenting reactions needed to be developed and the advice given made consistent. It was hoped this would lead to a more proactive and personalised approach to patient care.

Purpose: Demonstrating how better documentation leads to a greater understanding of side effects, earlier intervention and improved outcomes for the individual patient. Communication and safety improved in the department. A range of CPD outcomes can be covered in the development process.

Summary: The need for its development What discussions were had and with who. What grading systems could be utilised. What information was required. What layout would be most efficient and effective. Pictures of sheet. Discussion of the multiple advantages and benefits of the sheet. Disadvantages and difficulties encountered.

Conclusion: Improved patient care and communication achieved with better documentation and consistent advice. Is there a need to give the patients more control over their treatment and side effects? Help them feel more involved and valued and humanises the experience. CPD outcomes covered.

1. RTOG/EORTC Late Radiation Morbidity Scoring Schema . 2018. RTOG/EORTC Late Radiation Morbidity Scoring Schema



2. Natsuo Tomita, N. (2018). International prostate symptom score (IPSS) change and changing factor in intensity-modulated radiotherapy combined with androgen deprivation therapy for prostate cancer

P094 Virtual imaging for patient information on radiotherapy planning and delivery for prostate cancer: Data collection and analysis

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Background: To assess whether provision of information on RT planning and delivery with a Virtual Environment Radiotherapy Training (VERT) system improves not only patient's satisfaction^[1], but also compliance to preparations for prostate radical RT.

Method: In this randomised study, patients were allocated to group 1 (information on RT planning and delivery using VERT was given prior to starting RT) or group 2 (after the last RT day). 92 patients completed a prescription of 74Gy-37 fractions delivered with VMAT (Volumetric Arc Therapy). Their planning CT (pCT) images and RT plan were uploaded onto the VERT system, allowing patients and relatives to visualise and further understand their treatment nature as well as the set-up importance. Bladder volumes and product of separations AP-RL in both bladder and rectum were analysed blindly in 'Eclipse' from the pCT, and then on days 1,2,3, and weekly from the CBCT scans.

Results: No significant differences were seen in the number of CBCT scans between group 1 (39.0 per patient) and 2 (38.5 per patient), and either in the reduction of bladder volumes and APxRL-products in bladder and rectum. The percentages of the bladder volume for group 1 and 2 patients when compared to the pCT values were (81.8+7.3)% and (80.2+11.4)% respectively at week 4, and (84.7+10.3)% and (76.5+10.3)% respectively on the last treatment week.

Conclusion: Providing information on RT planning and delivery using 3D-imaging systems helped patients to better understand the treatment, hence, improving patients' experience^[1]. However, no substantial differences were found regarding patients' compliance to RT.

1. Sulé-Suso J., *et al* . Pilot study on virtual imaging for patient information on radiotherapy planning and delivery. *Radiography* 21: 273-277; 2015

P095 Too anal to talk about gay sex? Developing UK guidance on how long men should abstain from receiving anal sex before, during, and after investigations and treatments for prostate cancer

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Introduction: Gay and bisexual men's sexual practices are different to that of heterosexual men. This group of patients therefore require targeted information and support in order to be appropriately prepared for the sexual side effects of prostate cancer treatments (Blank, 2005; Fish & Williams, 2018; Macmillan Cancer Support, 2015).

Aim: To develop UK guidance on how long men should abstain from receiving anal sex before, during, and after investigations and treatments for prostate cancer.

Method: A modified Delphi technique utilising two question rounds was employed in order to generate consensus opinion from a panel of 15 clinical oncologists and 11 urological surgeons.

Results: The overwhelming consensus from panel members was yes men should abstain from receiving anal sex before, during, and after investigations and treatments for prostate cancer. The consensus for how long should men abstain was: 1 week before a PSA test; 2 weeks after a transrectal ultrasound guided biopsy; 1 week after a transperineal biopsy; 6 weeks after a radical prostatectomy; yes during external beam radiotherapy and for 2 months after; and 2 months after high-dose rate brachytherapy. Panel members failed to reach consensus on how long men should abstain after the insertion of fiducial markers and permanent seed brachytherapy.

Conclusion: Men should abstain from receiving anal sex before, during, and after investigations and treatment for prostate cancer in order to avoid receiving a false positive PSA test; manage their side effects appropriately; minimise radiation exposure to sexual partners; and to minimise the risk of developing post-intervention complications.

1. Blank, T. O., 2005, Gay men and prostate cancer: invisible diversity: *Journal of Clinical Oncology*, v. 23, p. 2593-2596

2. Fish, J., and I. Williamson, 2018, Exploring lesbian, gay and bisexual patients' accounts of their experiences of cancer care in the UK: *European Journal of Cancer Care*, v. 27, p. 1-1

3. Macmillan Cancer Support, 2015, No One Overlooked: Experiences of LGBT People Affected by Cancer

P096 A retrospective review of bladder volumes during prostate radiotherapy - "to pee or not to pee" that is the question

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Background: There is much debate surrounding the ideal bladder status for patients having prostate radiotherapy. A bladder-filling protocol is challenging to manage in terms of appointment scheduling, patient compliance and comfort. The purpose of



the audit is to establish if a fluctuating bladder volume has an effect on GU/GI toxicities reported and to simulate the dosimetric effect if the bladder volume is much smaller than the reference.

Method: A sample of 10 patients (planned for 60Gy/20 fractions according to CHHIP constraints), all following the same protocol of drinking 500ml of water over 20 minutes before treatment, had their daily cone beam CT exported to the planning system. Bladder volumes were outlined, collated and the results analysed. Acute toxicities at 3-6 months were reviewed. The dosimetric effect on the planned bladder dose constraints was simulated for the smaller bladder volumes.

Results: 198 scans were analysed and variations in bladder reference volumes were seen despite all patients following the same protocol. 118 treatments were delivered with a bladder volume outside a 70-130% range of the reference volume. Reported toxicities were no less favorable for smaller bladder volumes. Preliminary dosimetric comparison demonstrated the bladder V60Gy decreased and the V40Gy increased.

Conclusion: The current bladder-filling protocol is shown to be ineffective at replicating the reference volume for treatment and the analysis shows that an empty bladder approach should be considered.

P097 Development of bowel preparation sheet for patient undergoing prostate radiotherapy

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Background: Poor patient compliance with bowel and bladder preparation for prostate radiotherapy is a common problem. It seems to stem from a patient's lack of knowledge about why it is important. A lot of staff time is wasted by having to repeat preparation instructions, information and checks before treatment disrupting already busy schedules. In addition, with a higher dose per fraction, the organs at risk and the reproducibility of their position is even more critical. An information sheet was designed to give patients more information and improve compliance.

Purpose: Demonstrating how a detailed yet easy to understand information sheet can greatly improve patient compliance and hence improve side effects (monitored with bowel toxicity sheets developed simultaneously). Patients feel more involved and in control over their own treatment, humanising the entire experience.

Summary: Why the need for its development? How, what discussions were had and with who? What information was required? What language should be used as not to be to clinical? Would diagrams be of benefit? Picture of sheet. Discussion of the multiple advantages and benefits of the sheet. Disadvantages and difficulties encountered.

Conclusion: Improved patient care and communication achieved with better documentation and consistent advice. Prioritise clinical care by involving and educating the patient effectively, making them part of the team, humanising the experience, streamlining the preparation process and ultimately improving the treatment pathway for the patient CPD outcomes covered.

P098 Minimising radiation dose in computed tomography of kidneys, ureters and bladder (CT-KUB)

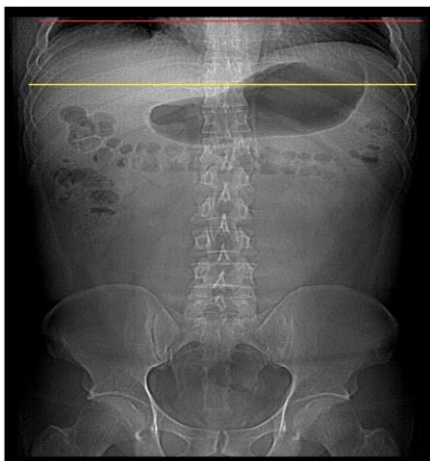
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Background: CT-KUB is the favoured imaging to confirm the diagnosis of urinary tract calculi, in accordance with the Royal College of Radiologists and British Association of Urological Surgeons guidelines. CT-KUB should commence cranially to include both kidneys in their entirety but be well collimated thereafter to minimise dose. The dose can be reduced by minimising the scan field with many authors quoting the upper border of T10 as a landmark to commence the examination. However, many commence above this and thus expose the patient to unnecessary radiation.

Methods: A retrospective study involving two cycles with 200 CT-KUB's in each. 1st: 14/03/18 - 14/04/18 2nd: 06/11/18 - 06/12/18. Data collected: A) vertebral level at which kidneys fully included B) vertebral level at which scan commenced The findings of the 1st cycle were presented at a departmental QI meeting leading to change of the CT-KUB protocol to specifically state (Plain Scan upper T10 to symphysis pubis) instead of (Plain scan top of kidneys to symphysis pubis). Radiographers were encouraged to follow this. See attached imaging:

Red line: Current practice
Yellow Line: suggested change



Results:

Data collected	1 st Cycle	2 nd Cycle
A) vertebral level at which kidneys fully included	199 patients had their kidneys between T10-12 1 patient had the upper level of their kidneys at upper border of L1	197 patients had their kidneys between T10-12 3 patients had the upper level of their kidneys at upper border of L1
B) vertebral level at which scan commenced	115 scans commenced between T10-T12 85 commenced above T10	145 scans commenced between T10-T12 55 commenced above T10



Discussion: Our study shows that after raising radiation awareness the protocol for CT-KUB has changed and this led to reasonable improvement in the range of scans that commenced at the standard level (T10).

1. British Association of Urological Surgeons (BAUS) guidelines for acute management of first presentation of renal/ureteric lithiasis, December 2008, reviewed and updated February 2012
2. iRefer. Making best use of a Department of Clinical Radiology, Guidelines for Doctors, 7th Edition 2012, The Royal College of Radiologists, London
3. Webb WR, Brant WE, Major NM. Elsevier - Health Sciences Division. November 2005. Page 276 Fundamentals of Body CT. Third edition.

P099 In emergency department patients requiring resuscitation room care, is renal resistive index measurement a feasible early indicator of acute kidney injury

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Background: Doppler renal resistive index (RRI) has emerged in the last decade as a useful prognostic indicator for transient and persistent acute kidney injury (AKI)^[1] and a potential early marker for sub-clinical AKI and post procedural AKI risk^[2,3]. This study aimed to determine the feasibility of RRI measurement in an Emergency Department (ED) resuscitation room setting using a point-of-care ultrasound system.

Method: Prospective single centre study. RRI measurement was attempted in non-consecutive patients by a single expert sonographer and evaluated against context specific feasibility criteria and target outcomes.

Results: 20 patients (11 male, 9 female) Age of patients 33 years to 91 years (mean 62.3 years). Adequate visualisation of both kidneys achieved in 60% of patients (n=12). Limiting technical factors were shortness of breath (SOB) (n=6), high BMI (n=2). In 30% of patients (n=6) no usable spectral trace was achieved. SOB noted as a technical difficulty in 60% of patients (n=12) In 9 patients (45%) SOB was the primary reason for failure to acquire a usable Doppler trace. All criteria for RRI measurements were met in only 3 patients (15%).

Conclusion: Measurement of RRI was not feasible in patients requiring resuscitation room care using a current point of care ultrasound system. If RRI is to play a useful role in this high priority patient group, the problem of image blur due to patient breathing movement must be resolved. A theoretical model for adaptation of the standard RRI measurement algorithm is presented that may mitigate motion blur in these patients.

1. Darmon, M., Schortgen, F., Vargas, F., Liazydi, A., Schlemmer, B., Brun-Buisson, C., et al. (2011). Diagnostic accuracy of Doppler renal resistive index for reversibility of acute kidney injury in critically ill patients. *Intensive Care Medicine*, 37(1), 68-76
2. Marty, P., Ferre, F., Labaste, F., Jacques, L., Luzi, A., Conil, J. M., et al. (2016). The Doppler renal resistive index for early detection of acute kidney injury after hip fracture. *Anaesth Crit Care Pain Med*, 35(6), 377-382
3. Wybraniec, M. T., Chudek, J., Bozentowicz-Wikarek, M., & Mizia-Stec, K. (2017). Prediction of contrast-induced acute kidney injury by early post-procedural analysis of urinary biomarkers and intra-renal Doppler flow indices in patients undergoing coronary angiography. *Journal of Interventional Cardiology*, 30(5), 465-472

P100 Granulomatous prostatitis, a mimic of prostate cancer on MRI

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Background: Multiparametric prostate MRI incorporating anatomical and functional imaging is a contemporary imaging technique used in prostate cancer diagnosis and management. However, a range of benign conditions may mimic prostate cancer on MRI. Granulomatous prostatitis (GP) is a rare inflammatory condition that can imitate cancer clinically (abnormal digital rectal examination and/or elevated PSA) and present with high suspicion PIRADS (Prostate Imaging Reporting and Data System) scores with overlapping MRI features of clinically significant prostate cancer. Therefore, histological analysis is required for conclusive diagnosis.

Purpose: To briefly discuss GP and to illustrate a series of histologically proven cases that present with features mimicking clinically significant prostate cancer on MRI.

Summary:

- A brief outline of GP and its subtypes
- Describe and illustrate a series of histologically confirmed GP cases designated a multiparametric prostate MRI PIRADS score of 5, highly suspicious for clinically significant prostate cancer at presentation
- Review and present a summary of clinical and imaging features from literature review that may aid in the diagnosis of GP.

1. Kitzing, Y., Prando, A., Varol, C., Karczmar, G., Maclean, F. and Oto, A. (2016). Benign Conditions That Mimic Prostate Carcinoma: MR Imaging Features with Histopathologic Correlation. *Radiographics*. 36(1):162-75
2. Bhowmik N.M., Yu J., Fulcher A.S., Turner M.A. (2016) Benign causes of diffusion restriction foci in the peripheral zone of the prostate: diagnosis and differential diagnosis. *Abdom Radiol*. 41(5):910-8.
3. Lee S.M, Joshi J., Wolfe K., Acher P., Liyanage S.H. (2016) *Radiol Case Rep*. 16;11(2):78-82
4. Rais-Bahrami S., Nix J.W., Turkbey B., Pietryga J.A., Sanyal R., Thomas JV5, Gordetsky J.B. (2017). Clinical and multiparametric MRI signatures of granulomatous prostatitis. *Abdom Radiol*. 42(7):1956-1962



P101 Granulomatous prostatitis: A pictorial review of multi-parametric MRI features of a perfect mimic of aggressive prostate cancer

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Background: Granulomatous prostatitis is a benign inflammatory condition which can be a perfect mimic of aggressive prostate cancer clinically and radiologically. On multi-parametric MRI (mpMRI), it is a specificity-limiting factor, being a regular cause of a false positive scan. It can lead to a prostate biopsy with associated risks and poses a diagnostic challenge for the reporting radiologist.

Purpose: MpMRI prostate can guide biopsy and avoid biopsy in up to 30% of men referred with raised prostate specific antigen (PSA)^[1]. An awareness of granulomatous prostatitis as a mimic of prostate cancer on mpMRI will help the radiologist arrive at an accurate diagnosis. The aim of this pictorial review is to identify these confounding MRI features.

Summary: This pictorial review illustrates the spectrum of granulomatous prostatitis MRI features, including gland-confined and locally advancing-looking lesions. The increased incidence of granulomatous prostatitis in patients who have Bacillus Calmette-Guérin (BCG) treatment for bladder cancer is described. Finally, a case of caseating granulomatous prostatitis confirming prostate tuberculosis is demonstrated. In addition to description and illustration of granulomatous prostatitis, we include average MRI signal intensities and the contrast enhancement pattern for granulomatous prostatitis, normal prostate and cancers, taken from a review of 150 patients who underwent mpMRI prostate examinations.

1. Kapoor, J., Lamb, A. D., & Murphy, D. G. (2017). Re: Diagnostic Accuracy of Multi-parametric MRI and TRUS Biopsy in Prostate Cancer (PROMIS): A Paired Validating Confirmatory Study. *European Urology*, 72(1), 151. doi:10.1016/j.eururo.2017.02.014

P102 Learning from malignancies missed on CT urogram

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Background: Unexplained painless visible haematuria is a red flag symptom which needs urgent investigation, as up to 40% of patients will go on to develop a urological malignancy. CT urography is the initial diagnostic tool to investigate the cause for bleeding, and can be followed later with cystoscopy. CT Urography is a powerful tool for diagnosing malignancies within the urinary tract, of which bladder cancer is the commonest one. There are occasions, however, where malignancies outside the urological system are identified on CT urogram.

Purpose: This poster shall present a pictorial review of several cases identified from a busy district general hospital of malignancies identified on CT urography. It will highlight anatomical regions where causes for haematuria outside the urinary system were seen as well as other clinically relevant incidental findings. One learning example of particular importance will be that in female patients, perceived haematuria can be caused by cervical malignancies instead of urological causes.

Summary: CT urography is a good initial diagnostic test for visible haematuria. We will present several pictorial learning cases where we found significant other pathology. One important learning point from our series will be that cervical malignancies can masquerade as urological in origin with haematuria.

P103 The spectrum of abnormal adrenal FDG uptake on PET: A pictorial review of pearls and pitfalls

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Background: Adrenal uptake is often noted on positron emission tomography (PET) using 18F-fluorodeoxyglucose (FDG). This may be incidental, but may represent significant benign or malignant findings. There are also recognised indications for FDG-PET assessment of suspected malignant adrenal lesions. Imaging assessment of the adrenal glands is often complex and requires a multimodality approach with conventional anatomical imaging, (including contrast-enhanced computed tomography with wash-out technique, and magnetic resonance imaging, particularly in-and-out phase imaging); functional imaging (including MIBG scintigraphy and Ga-68 DOTATATE PET/CT); and correlation with biochemistry. A multidisciplinary approach to the work-up of this finding is required.

Purpose: Increased adrenal uptake on FDG-PET often presents a diagnostic challenge as it can occur with both benign and malignant pathology. We aim to demonstrate a range of potential causes of increased adrenal uptake on FDG-PET, patterns of uptake and explain the approach to the subsequent work-up of this finding.

Summary: We will present cases from our institution demonstrating a range of adrenal pathology; these were initially identified incidentally on FDG-PET imaging performed for other indications. We will discuss the clinical significance of these lesions, and summarise the assessment of this finding using imaging and biochemistry.

1. Dong, A. et al. (2014) '18F-FDG PET/CT of adrenal lesions', *American Journal of Roentgenology*, 203(2), pp. 245–252

2. Chong, S. et al. (2006) 'Integrated PET-CT for the Characterization of Adrenal Gland Lesions in Cancer Patients: Diagnostic Efficacy and Interpretation Pitfalls', *RadioGraphics*, 26(6), pp. 1811–1824

3. Economopoulou, P. et al. (2013) 'Adrenal incidentalomas in cancer patients are not always "innocent": a case report and review of the literature.', *Case reports in medicine*, 2013, p. 461409