neuronal markers by immunofluorescence and quantitative PCR(qPCR).

Methods Human bowel was collected following a pull-through procedure in four patients with short segment HSCR. Protein expression of ENS and neuronal markers (p75, SOX10, PHOX2b, Hu and GLUT1) in ganglionic, TZ and aganglionic region of the bowel were visualised through immunofluorescence and mRNA levels of the corresponding markers were quantified using qPCR.

Results Immunofluorescence analysis showed a gradual loss of SOX10, PHOX2b and Hu protein in the lower TZ and absence in the aganglionic region. However, generally the marker expression presented with inter-patient variability within the TZ. By contrast, GLUT1 was highly expressed in the perineurium of thickened nerve trunks, characteristic of the aganglionic region. Perineurial structures positive for GLUT1 were also visualised in the TZ, but to a lesser extent than the aganglionic region. This observation corresponded with a decrease in mRNA levels of p75, SOX10, PHOX2b and Hu from the ganglionic to the aganglionic region and an increase in GLUT1.

Conclusion This work displayed a trend of decreasing number of cells expressing ENS and neuronal markers from the ganglionic to aganglionic region, through the TZ. However, our analysis reveals inter-patient variability in the cellular composition of HSCR bowel, especially in the TZ. Possibly explaining the variable functional outcome for HSCR children with TZ pull-through.

G325(P) A SINGLE-CENTRE AUDIT EVALUATING THE APPROPRIATE USE OF DMSAS FOR THE INVESTIGATION OF PAEDIATRIC UTI

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Aims Technetium-99m-labeled dimercaptosuccinic acid (DMSA) scintigraphy represents an important imaging modality in investigating select paediatric patients with urinary tract infection (UTI). Recently updated NICE guidelines outline the indications for DMSA according to age group. This audit aimed to assess adherence to these guidelines and evaluate their reliability.

Methods Using PACS, we retrospectively evaluated all first-time DMSAs performed at a tertiary centre to investigate paediatric UTI over a period of 24 months. Data collected included patient age, clinical justification, timing of the scan and abnormalities reported.

Results 105 patients underwent DMSAs (mean age: 4.0 years, range: 4 months-15.6 years). Of these, 85 cases (81.0%) adhered to NICE guidelines. Of the 20 non-adherent cases, 8 (40%) misinterpreted the definition of recurrent UTIs, 8 (40%) were performed inappropriately after a solitary UTI, and 4 (20%) misinterpreted the definition of an atypical UTI. Adherence was poorest for patients under 6 months at 71.4%. NICE guidelines had a 88.9% sensitivity (95% CI 65.3–98.6%); 20.7% specificity (95% CI 12.8%–30.7%), 18.8% PPV (95% CI 16.0%–22.0%); and 90% NPV (95% CI 69.6–97.3%).

Conclusion We demonstrate relatively consistent adherence to NICE guidelines with some room for improvement. We

advocate improving awareness amongst referring clinicians on the guidelines, particularly for the youngest age group and on what constitutes a recurrent or atypical UTI. Improving adherence ensures that unnecessary DMSAs are avoided, precluding radiation exposure and emotional stress. Although limited by our small sample size, we show good sensitivity but poor specificity of NICE guidelines.

G326(P) INVESTIGATION AND MANAGEMENT OF PAEDIATRIC UROLITHIASIS – A UK SINGLE CENTRE EXPERIENCE

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Aim To evaluate our centre's experience on the management of urinary tract stones in children according to current European Association of Urology (EAU) guidelines.

Methods A retrospective review of all cases of urolithiasis treated in our tertiary paediatric centre. This encompasses a 6 year period (June 2013- May 2019). Data collected included patient demographics, urinary and biochemical workup, stone burden and analysis, surgical management, outcomes of treatment and follow up. Compliance with EAU guidelines was also audited.

Results Thirty seven patients were identified (22 males). Median age was 8 years (range 1–16 years). Mean weight was 31.5±8 kilograms, with 3 patients being above the 75th centile. Risk factors for stone formation were identified in twenty four patients: four patients (10.8%) were on medication known to precipitate urolithiasis, two patients (5.4%) had a family history of renal stones, five patients (13.5%) had a metabolic cause, ten patients (27%) had a history of recurrent urinary tract infections and three patients (8.1%) had a combination of risk factors. The remaining thirteen patients were idiopathic stone formers. Nine patients had bilateral renal stones, twenty five unilateral, and three had bladder stones. Majority of stones were calcium based. Twenty two patients (59.4%) had surgical management of stones, with 3 patients requiring repeat procedures for high stone burden. Eight patients (21.6%) had impairment of renal function secondary to stones.

Conclusions Management of paediatric urolithiasis is complex and is associated with significant morbidity. The majority of patients have clear risk factors for stone formation. Investigation according to European guidelines provides the means to identify such patients. Further multicentre collaborative studies are warranted.

G327(P) AN AUDIT OF ACUTE KIDNEY INJURY IN CHILDREN

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Aims Acute Kidney Injury (AKI) in hospitalised children is significantly associated with increased morbidity and mortality. The British Association of Paediatric Nephrology AKI management guidelines recommend early identification of patients at