was found in 12/401 (3%) children and 58/401 (14.5%) suffered from constipation. Lastly, a significant percentage of children presented innocent heart murmur (86/401 – 21.4%).

Conclusions Our experience demonstrate that there are many comorbidities that influence the prognosis and the response to the therapy in these children.

P563 PROFILE OF PAEDIATRIC PATIENTS WITH URINARY TRACT INFECTION

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Background and aims Urinary tract infection (UTI) is one of the most common pediatric infections. The aim of the study was to evaluate the clinical-epidemiological profile of children with UTI.

Methods The study group consists in 87 children, 55 girls and 32 boys, aged 3 months – 13 years, hospitalised in a Paediatric Clinic during 16 months, diagnosed with urinary tract infections. Diagnostic criteria were the presence of pyuria and/or bacteriuria on urinalysis and the presence of more than 100.000 colony-forming units (CFU) per mL of a uropathogen.

Results The distribution of patients by age groups showed a higher prevalence in the age-groups 1–12 months, 24,14%, and 7–14 years, 29,89, than in children 1–3 years age old, 19,84% or 3–7 years age old group, 18,09%, without statistical significance. Depending on the environment, 73,6% of patients were from urban areas and 22,4% from rural areas. The incidence of infections was higher in autumn-winter periods, 52% of cases. Analyzing the way of admission, we found an increased number of the patients sent by the family doctor (63.22%), followed by patents referred to the hospital in the emergency department, 27.59% of the patients and 5.75% of the patients were transferred from another hospital. The etiology of infections was *Escherichia coli* in 49.43% of cases, followed by *Proteus mirabilis* (4.60%), *Enterobacter aerogenes* (3.45%), *Staphylococcus epidermidis* (3.45%), *Enterococcus faecalis* (5.75%), *Pseudomonas aeruginosa* (1.15%), *Streptococcus faecalis* (4.60%), *Candida albicans* (2.30%). The risk factors were present in 54% of our patients: 5,74% presented renal lithiasis, 4,6% duplicated renal collecting system, 10,3% hydro-nephrosis, 9,2% vesico-ureteral reflux, 2 patients neurogenic bladder, 3 patients chronic constipation, 1 patient coalescence of small labia.

Conclusions In urinary tract infection, *E. coli* is remaining the most prevalence etiological factor in our population: The prevalence is bigger in patients with a malformative risk factor.

P564 A QUALITY IMPROVEMENT PROJECT ON ORAL FOOD CHALLENGE

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Introduction This is a Quality Improvement project done in North Devon District Hospital, Barnstaple, UK (level 1 unit)

to find out compliance with a Food challenge protocol and to improve our current practice.

We used a food challenge protocol from Royal Devon and Exeter Hospital as a standard protocol.

Methods Total number of food challenges audited were 25.

All the notes were inspected against following standards: Age, Gender, Type of allergen Challenged, written consent, Time lag between Skin Prick test (SPT) and Food challenge, Risk assessment done or not, allergy focused documentation of clinical examination before and after challenge, Observations before and after challenge, outcome of challenge.

Results Main population was between age 1–5 years with Female to male ratio of 1.08. We carried out a variety of challenges; majority being baked eggs and milk.

We found out quite a few gaps in our practice.

1. An informed written consent was not taken for any of the challenges.
2. None of the parents were given information leaflet about food challenge.
3. Last skin prick test result was documented in Only 3/25 (12%) food challenges.
4. Last antihistamine use was documented before 1/25 (4%) food challenge.
5. None of the children with high risk challenges had IV line done beforehand.
6. 80% of the time we didn't examine the child after food challenge was complete hence outcome of the challenge was not documented clearly.
7. 44% of our cohort of population had to wait for >2months after negative SPT disparate recommended waiting time of 2–4weeks.

Conclusions Currently we are not following recommended protocol for a food challenge. If a proper protocol is not followed during a food challenge then there are high chances of failed food challenges and anaphylaxis. This might lead to elevated parental anxiety and needless exclusion of food from diet which may lead to essential vitamin/mineral deficiency.

Actions Following this audit, we formed pro-forma which includes all the relevant information required before the food challenge and is easy to follow.

If we gather all the relevant information; then a Junior doctor and nurse will feel comfortable when carrying out a food challenge and outcome of challenge will be accurate and therefore less or no false positives.

Single page pro forma will save time required to clerk these patients on a busy day on the ward.

P565 VALIDATION OF NOVEL GROWTH-PROMOTING AND GROWTH-SUPPRESSING GENES IN NEUROBLASTOMA CELLS

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Background Neuroblastoma is the most common extra-cranial embryonal tumour in children. Treatment outcomes and five-year survival rates are very poor, thus for improved results there is a need to understand its genetic and molecular drivers.

Aim This project focused on novel genes that can potentially be targeted to induce growth suppression or increase neural differentiation in Neuroblastoma cells.

Objectives To characterise the novel growth-promoting or suppressing actions of selected Oxovanadium - Response genes, here coded as BRG1-5, and putative suppressor gene PTPRH, through gain/loss-of-function assays and enzyme inhibitory assays in Neuroblastoma cells.

Methods SiRNA and plasmid of the genes were transfected into Neuroblastoma cells; Cell morphology was studied by microscopy, and quantitation of growth was done through resazurin assays. Inhibitors of glycosaminoglycan synthesis, thought to be upstream of BRG3, were assayed using resazurin to check the involvement of glycosaminoglycan signaling in Neuroblastoma cell survival.

Results BRG3 and BRG1 SiRNA transfections generated statistically significant reductions in cell growth on IMR32 ($P=0.000$, $P=0.004$) and Kelly ($P=0.000$, $P=0.001$) Neuroblastoma cells.

BRG3 and BRG1 plasmid transfection induced growth suppression or promotion, respectively, to varying degrees in 293T, IMR32 and Kelly. PTPRH induced growth suppression ($p=0.001$). Additionally, the genes had morphological effects on transfected cells. BRG3 protein was located on microtubules during mitosis, BRG1 was located in round, elongated protrusions, potentially invadopodia.

Glycosaminoglycan synthesis inhibitor 4MU significantly reduced cell survival, with EC₅₀ (SD) in Kelly, IMR32, SKNSH cells of 0.45 mM (0.037), 0.32 mM (0.086), and 0.11 mM (0.054), respectively. These results indicate that Glycosaminoglycan signaling protein BRG3 is of particular interest to pursue as a therapeutic target.

Conclusion This study identified the growth-promoting and suppressing effects of the novel genes in Neuroblastoma and confirmed the morphological location of the proteins in some Neuroblastoma cell lines. In addition, it estimated the response to Glycosaminoglycan synthesis inhibitor and calculated the EC₅₀. This Glycosaminoglycan pathway, potentially acting via BRG3, could present a route for defining a new target treatment for Neuroblastoma. The novel BRG3 data may be of particular interest, since BRG3 is implicated in other cancers, but not so far in Neuroblastoma.

P566

EBV RELATED AUTOIMMUNE HAEMOLYTIC ANAEMIA WITH A NEGATIVE DIRECT COOMB'S TEST – A CASE REPORT

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Introduction Epstein-Barr virus (EBV) infections is a common early childhood infection. These infections are usually asymptomatic. Epstein-Barr virus-induced infectious mononucleosis (IM) occurs typically in young adult patients. The most common presentation of IM are fever, malaise, lymphadenopathy and sorethroat. Acute hemolytic anemia is a rare complication, occurs in only 1% to 3% of patients with infectious mononucleosis. Hemolytic anemia is very uncommon in pediatrics and adolescents and EBV is considered an infrequent cause of AIHA.

This case report describes a 14 years old boy, previously well, who presents with history of lethargy, fever, poor

appetite. His symptoms started 5 days earlier. Examination revealed pallor, jaundice, b/l erythematous tonsillar enlargement, cervical lymphadenopathy and splenomegaly. Laboratory test showed a positive monospot test, lymphocytosis, unconjugated hyperbilirubinemia, with hepatic dysfunction (raised ALT/AST). His hemoglobin dropped to 5.1 g/dL, with increased lactate dehydrogenase, and reticulocyte counts. He received a total of 6 units of red blood cell transfusions with no response. His Direct Coomb's Test (DCT) was negative. EBV serology was equivocal and molecular testing was positive. He responded to IV immunoglobulin and oral prednisolone. His hemoglobin and other markers of hemolysis improved gradually within 4–8 weeks of treatment.

Conclusion Epstein-Barr virus infection should be considered as a differential diagnosis of any haemolytic anemia disease. Although, one of the indicators of AIHA is having a positive DCT, a negative DCT can also occur. Treatment with IV immunoglobulin and course corticosteroid appear to be beneficial in these cases.

P567

LEUKAEMIA CUTIS: A RARE MANIFESTATION OF ACUTE LYMPHOBLASTIC LEUKEMIA

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Leukaemia cutis is a broad term used to describe any cutaneous presentation of leukaemia. It is the infiltration of neoplastic leukocytes or their precursors into the epidermis, the dermis, or the subcutis. The appearance of these lesions is variable and may include flesh-coloured to violaceous papules, plaques, or nodules. We present the case report of a 4-year-old Caucasian girl who presented with a cutaneous lesion which ultimately led to the diagnosis of leukaemia (ALL).

Our patient first presented to the Emergency Department of her local unit with complaints of right ankle pain and swelling which persisted after a minor injury. She was treated conservatively, and pain resolved over a month. FBC was normal, and she had a CRP of 31 and an ESR of 83, which were normal on repeat bloods after 2 weeks.

She represented 4 months later complaining of painful wrists. There was a well-demarcated soft tissue swelling above the right supraorbital ridge, which was raised, had a bluish hue and measured approximately 3 × 1 cm. Parents had initially noticed an area of hypopigmentation which subsequently developed into the swelling described. There was no history of weight loss, pallor, easy bruising, night sweats or excessive fatigue. She was a previously healthy child. She was admitted for medical investigations to rule out connective tissue disorders and malignancy. Blood investigations were normal and abdominal ultrasound showed no masses or hepatomegaly. Cranial CT imaging revealed a 3 × 1 cm soft tissue swelling with no attachment to the underlying bone. A biopsy of the rapidly enlarging lesion revealed blasts cells, consistent with a diagnosis of precursor B-cell leukaemia. Subsequent blood tests confirmed the presence of circulating blasts, despite serial full blood counts over the previous 7 months being normal. She was commenced on UK ALL Regimen A Protocol. The skin lesion involuted with treatment.