are fever, dysuria, frequency, urgency, suprapubic tenderness and haematuria. Symptoms indicating upper UTI are loin pain, flank tenderness, fever and rigors. Common causative organisms are Escherichia coli followed by Klebsiella, Enterococci, Proteus, Coagulase negative staphylococci and Staphylococcus saprophyticus. If not managed adequately UTI has been considered a risk factor for the development of renal insufficiency, scarring and end stage renal disease in children. UTI may be suspected on the basis of clinical features or findings on urinalysis or both. A urine culture is necessary for confirmation and appropriate therapy. Nitrites and leucocyte esterase are usually positive in infected urine, WBC count > 100/cmm is highly suggestive of UTI.

**Aim** This audit aims to assess sensitivity and resistance of E.coli causing UTI in children admitted to Mayo University Hospital where children with presumed UTI are empirically treated with co-amoxiclav as first line therapy until culture and sensitivity results are available. The level of resistance to Co-Amoxiclav has been increasing over the years.

**Methodology** Retrospective cross sectional hospital based study of children admitted to the Paediatric Ward in Mayo University Hospital, with a primary diagnosis of UTI over a period of 12 months from the beginning of July 2016 to the end of June 2017. The list of patients with the diagnosis of UTI was obtained from the HIPE department of the hospital. Charts of children from birth up to the age of 15 years were reviewed.

**Results** During the study period, there were 93 admissions to the hospital with UTI. Children from 1–5 years of age were the most affected age group (39.8%) followed by those less than 1 year old (36.6%), females accounted for (74%) of the most affected age group (39.8%) followed by those less than 1 year old (36.6%).

**Conclusion** There is high level of E.coli resistance to Co-Amoxiclav in our region. According to microbiology recommendations, a resistance of 20% is significant enough to warrant a change of practice. Due to high resistance in our cohort that has emerged over the last few years we advise updating departmental protocol and adding a second antibiotic.
37% increase in the inclusion of problem lists and 12% increase in medication list inclusion.

Conclusion Effective communication is an integral part of clinical medicine. According to the modified SAIL assessment tool letters were not effectively communicating clinic details to primary care physicians posing a threat to patient care at the interface of paediatric primary and secondary care. Regular education and a pre designed layout positively impacts the quality of our written communication. Further steps need to be taken to ensure the continuity of standards in a centre where NCHDs rotate frequently.

**GP122** IS TREATMENT WITH ATROPINE 0.01% EYEDROPS SAFE TO PREVENT THE PROGRESSION OF CHILDHOOD MYOPIA?

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10.1136/archdischild-2019-epa.187

**Introduction** In 2016 the effectiveness of atropine eyedrops in preventing the progression of myopia in children was confirmed. Atropine produces parasympathetic inhibition because avoids the acetylcholine fixation. Atropine’s main indication is the cardiac stimulation in vagal bradycardia. Its principal cardiovascular side effects are: palpitations, tachycardia and atrial arrhythmias. A paradoxical bradycardia has been documented when atropine is administered at lower doses (<0.1 mg). However, this concept has now been refuted. The last guidelines of the American Heart Association for Cardiopulmonary Resuscitation recommend to eliminate the minimum dose restriction of atropine during emergency intubation (class IIb). The main reluctance of parents to use atropine eyedrops in the control of myopia of their children is the fear of the cardiac effect.

**Objective** To evaluate the presence of cardiovascular changes after treatment with 0.01% atropine eyedrops administered to reduce the progression of myopia in children.

**Material and methods** Prospective observational study in 54 patients at the Nens Hospital Foundation in Barcelona (Spain) between 2016–2018. Patients received one drop of atropine 0.01% in each eye (total dose: 0.01 mg) with one minute of tear duct occlusion. Two analyzes were performed: before starting atropine and after 3 months of treatment. The parameters assessed were: somatometric data (weight and height), constants (heart rate and blood pressure), electrocardiographic data (P wave axis, PR segment and arrhythmias) and ultrasound data (left ventricle tele-diastolic diameter).

**Results** The average age was 10.2 years, with a higher percentage of women (68.5% vs 31.5%). Only one patient presented symptoms of palpitations and there was only one case with arrhythmias. It was an 8 years old girl who presented premature atrial beats. There were no significant differences in the studied variables, with the exception of heart rate. The mean heart rate decreased from 79.4 bpm to 75.3 bpm (p <0.05).

**Conclusion** The use of atropine 0.01% eyedrops to prevent the progression of childhood myopia is cardiologically safe. Daily use of very low doses of atropine (0.01 mg) over a period of 3 months results in a significant decrease in heart rate.

**GP123** ALTERED SYSTEMIC INFLAMMATORY RESPONSE IN PAEDIATRIC MILD TRAUMATIC BRAIN INJURY

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10.1136/archdischild-2019-epa.188

**Aims** To evaluate systemic inflammation in TBI by exploration of the inflammasome pathway, a component of the innate immune system that regulates and induces inflammation. We examine the pathway at baseline in TBI compared with healthy control children, and in vitro in response to both LPS stimulation and melatonin therapy. Melatonin has protective effects against NLRP3 inflammasome activation and has therapeutic implications.

**Methods** Whole blood was sampled from children with TBI (n=10) within 24 hours of injury and compared to healthy age-matched controls (n=8) at baseline, following stimulation with bacterial endotoxin (LPS) (10ng/ml) and melatonin treatment (10−3M).

Granulocytes were delineated as CD66b+ and FSC, SSC-A. Measurements of mean channel fluorescence (MCF) of CD11b and TLR4 expression on FACS Canto II were recorded and analysed with FloJo software v10. Gene Expression of NLRP3 via rtPCR was recorded in 10 patients and 10 controls at baseline and following LPS and melatonin treatment.

**Results** Granulocyte CD11b expression was lower in children with TBI compared to controls (p=0.04) Both upregulated CD11b with LPS stimulation. Melatonin significantly decreased this LPS upregulation. There was no significant difference in baseline TLR4 expression between TBI and controls, but LPS upregulation of TLR4 was decreased by melatonin in the TBI cohort. Inflammasome was upregulated via NLRP3 expression in children with TBI compared to controls (p= 0.02). Melatonin significantly decreased LPS-induced upregulation of NLRP3 only in controls.

**Conclusion** Inflammation is altered in TBI compared to controls with altered responsiveness to melatonin treatment following LPS stimulation. The inflammasome is downregulated in children immediately following TBI. Selective inhibition of systemic inflammation targeting the inflammasome may have a future immunomodulatory role as a target in treating TBI.

**GP124** IL1-β LEVELS AT PRESENTATION CORRELATE WITH SYMPTOM BURDEN AT 2 WEEKS IN PAEDIATRIC MILD TRAUMATIC BRAIN INJURY

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10.1136/archdischild-2019-epa.189

**Aims** To evaluate components of the innate immune system, the inflammasome, in mild Traumatic Brain Injury (TBI) and the correlation with symptom burden 2 weeks from injury. We examine activation of the pathway at presentation, and