contributed to the diagnosis of FLNA mutation including diffuse ground glass opacification and persistent interstitial changes on Chest Radiographs and CT as well as periventricular heterotopia on MRI Brain.

P549 SHOULD CHILDREN WITH DOWN SYNDROME RECEIVE PROPHYLACTIC ANTIBIOTICS TO PREVENT RECURRENT RESPIRATORY INFECTIONS?

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Introduction Trisomy 21, also known as Down syndrome (DS), is a clinical disorder where a third copy of chromosome 21 is present. Approximately 95% of DS are due to a meiotic nondisjunction, with the remaining 5% caused by chromosomal translocation or mosaicism. Children with DS are predisposed to recurrent respiratory infections due to a number of anatomical and immunological features. Our project investigated whether there is evidence supporting or refuting the use of antibiotic prophylaxis for recurrent respiratory infections in the DS population.

Methods A systematic literature review was conducted of published medical literature within the following databases: MEDLINE, Science Direct, and The Cochrane Library. A systematic search for ongoing clinical trials and guidelines/consensus statements was performed using various clinical trial registers and professional organisation websites. Search terms included 'DS', 'Trisomy 21', 'paediatric', 'respiratory infections', 'recurrent respiratory infections', 'prophylaxis' and 'antibiotics'. Systematic reviews, meta-analyses, randomised controlled trials, case-control studies and case-series were considered.

Results A systematic search revealed 0 published articles and 0 clinical trials meeting the necessary inclusion criteria. 1 guideline was found meeting our inclusion criteria; the Nottingham Guideline which outlines the role of prophylactic antibiotics in the DS population. Given the dearth of evidence in this area, we formulated a clinical trial to investigate the utility of prophylactic antibiotics for current respiratory infections in the DS population. Azithromycin was chosen as the antibiotic of choice for its anti-inflammatory and immunomodulatory properties. Primary endpoints would be the number of respiratory infections experienced over the course of the treatment period requiring a GP or ED attendance. Secondary endpoints include the severity of respiratory infections, both the number and severity of adverse events experienced over the period of the trial, along with the patient and parent/legal guardian self-reported quality of life.

Conclusion There is a current lack of evidence supporting or refuting the use of prophylactic antibiotics for recurrent respiratory infections in DS. Basic scientific studies need to be performed elucidating the role of anatomical and immunological features in predisposing children with DS to recurrent respiratory infections. Clinical trials are needed to elucidate whether prophylactic antibiotics are useful in this cohort and to investigate the optimal timing and combination of antibiotics. Guidelines are needed to support physicians in clinical decision making.

P550 PNEUMONIA IN CHILDREN: DIAGNOSTIC POSSIBILITIES IN UKRAINE

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Background Pneumonia is the third most common fatal cause for children under age five in Ukraine. The increase in the incidence of acute respiratory infections requires the determination of the role of pathogens in the etiology of pneumonia. The spectrum of etiological agents of community-acquired pneumonia (CAP) has not been studied in Ukraine.

The aim of study

To identify and improve the understanding of the causative role of infectious pathogens in etiology childhood CAP during the epidemic season.

The methods 49 children from 2 months to 16 years old with pneumonia were examined and treated at the Eurolab clinic (Kyiv) from September to January 2018/2019. The diagnosis was based on clinical examination, chest radiography, blood test, Multiplex PCRs for throat and nasals wabs, rapid influenza diagnostic tests (RIDTs).

Results Pneumonia was confirmed with a chest x-ray in 36 patients. The diagnosis was determined without radiographic findings, based on clinical symptoms (cough, localized crackles, or decreased breath sounds, fever, tachypnea) and hypoxemia in 13 children over 5 years old. Viral pneumonia was diagnosed in 31 patients (63%) with normal WBC count. It was characterized by hyperinflation with bilateral interstitial infiltrates and peribronchial cuffing on chest x-ray in 23 children. PCR tests were used in 21 children to determine etiology: *Metapneumoviruses (hMPV)* - 6; *Respiratory syncytial virus (RSV)* - 3; *Adenoviruses* - 2; *Mycoplasma pneumoniae* - 2 (confirmed by seroconversion in IgG); *Chlamydophila pneumonia* - 6 (3 - with Ig G seroconversion); *Mycoplasma pneumonia* and *Chlamydophila pneumonia* - 1; *Adenovirus and Influenza A* - 1. In 6 children with viral pneumonia, *influenza A* was identified by RIDTs. Measles was the cause of pneumonia in 2 patients.

Conclusions The study suggests that viruses (primarily, *hMPV, influenza* and *RSV*) play a major role in childhood CAP. Future research is required to understand viral and bacterial colonization of the respiratory tract and the relevance of the detection of pathogens in the etiology of community-acquired pneumonia, which will reduce chest X-rays and optimize antibiotic therapy for pneumonia in children.

P551 LONG-TERM EFFECTS IN CHILDREN WHO UNDERWENT RESUSCITATION IN NEONATAL PERIOD

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Background Despite significant progress in nursing premature babies, neonatal pneumonia, along with artificial lung ventilation (ALV), is a significant factor in formation of chronic nonspecific lung diseases later in life.