Throughout the following year the number of children not suffering from severe respiratory infection was 1.5 times higher, than in the control group (p = 0.0002). In a year's time in the core group the number of severe bronchitis cases reduced by 85.7% and no non-invasive pneumonias were recorded. In the control group the cases of diseases mentioned above reduced by 32.5% and 50% correspondently. Significantly less rarely – by 82% and 44.3% did acute otitis media occur. In 12 months' time symptoms of chronical tonsillitis definitely reduced by 89.2% □ 41.6%, relapses of chronical adenoiditis were only recorded in 22.9% □ 37.6% of research participants. It is stated that the frequency of severe bronchitis (p = 0.0186), severe otitis (p = 0.0128), tonsillitis relapses (p = 0.0189) and adenoiditis (p = 0.0423), definitely differed in groups of children only vaccinated with PCV13 and prepared for vaccination using α2b-interferon.

Conclusions The usage of recombinant α2b-interferon for prevaccination preparation allows us to conduct PCV13 vaccination in children suffering from recurrent respiratory infections more efficiently thus providing non-specific and specific protection of children's organisms. The data obtained clearly demonstrate that the usage of α2b-interferon as a non-specific remedy for severe respiratory infections proves safe and efficient.

P537 OBSTRUCTIVE SLEEP APNEA IN PRADER-WILLI SYNDROME: IS IT A HIDDEN CRISIS?

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Introduction Sleep abnormalities are recognized complications of Prader-Willi Syndrome (PWS). The prevalence of sleep disorders has varied across studies with a reported range of OSA from 44% to 100%.[1] In prvious studies, a link has been suggested between the risk of OSA in those with PWS and body mass index (BMI), growth hormone treatment(GHT)[2] and the genetic type. Therefore, we set to examine the incidence and management of OSA as well as the relationship with GHT in the Irish paediatric population.

Methods This is a retrospective chart review of patients with a diagnosis of PWS and OSA from 1999–2018. We looked at polysomnography (PSG) results, ENT evaluation and subsequent recommended interventions. We categorised the type of sleep disorder and intervention used. After which we followed up with a post intervention PSG examining efficiency of treatment. PSG results were interpreted by the Paediatric Respiratory physician at Tallaght University Hospital.

Results A total of 49 patients were identified in the 19 years period, 14 of which were excluded (1 died, 5 left the country, and 7 had limited data). Of the remaining 35 patients, twenty patients (57%) were diagnosed with moderate/severe OSA. Of those with moderate/severe, 15 of 20 (75%) were received GHT, of whom 5 (33.3%) developed a worsening of OSA. Eight of 35 patients (22.8%) patients had a normal PSG, of whom one (12.5%) developed OSA after initiating GHT. Seven (20%) patients experienced equivocal PSG results. Notably, four of 7 (57.1%) patients with equivocal polysomnogray results developed OSA, of whom one wasn't on GHT(25%). Of the 35 patients adentonsillectomy was recommended in 6 (17.1%).

Conclusion In the paediatric Irish population with PWS, the overall incidence of OSA was 71.4%. Our study confirmed that all children with PWS who are being considered for growth hormone therapy should primarily undergo assessment for OSA by polysomnography and should be referred for management by ENT for possible adenotonsillectomy. It also shows that despite ENT intervention or growth hormone therapy PSG remains a much needed screening for OSA in children with PWS.

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P538 INCREASED SERUM LACTATE LEVELS ASSOCIATED WITH BETA-2 AGONIST USE IN PAEDIATRIC PATIENTS WITH ACUTE RESPIRATORY CONDITIONS

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Introduction Beta-2 agonist use has been hypothesised to lead to increased lactate by the following mechanism: Increased lipolysis and free fatty acids from beta-adrenergic receptor stimulation inhibit Kreb's cycle conversion of pyruvate. Resultant elevated pyruvate is metabolised by anaerobic glycolysis, increasing lactate.[1] There are few case reports of raised lactate from beta-2 agonist treatment. We set out to identify any association of beta-2 agonist use and serum lactate levels in paediatric patients treated for acute respiratory conditions.

Methods We recorded the frequency of administering 2.5 mg nebulised salbutamol and subsequent serum lactate levels for paediatric patients who presented to a hospital emergency department with respiratory distress and were referred to the respiratory specialist team over a 4 week period. Lactate levels were measured by arterial blood gas analysis within 2 hours of treatment. We also recorded age, gender and diagnosis.

Results 27 patients were admitted under respiratory team care following initial management, including salbutamol treatment, during the 4 week period. Mean age was 16 months and 46% were female. Conditions were diagnosed as bronchiolitis, lower respiratory tract infections, viral induced wheeze or exacerbations of asthma. 27% of patients had received three doses back-to-back, 65% had received single doses at 2 hour intervals and 8% had received single doses at 4 hour intervals. Lactate levels were elevated for all patients. Mean lactate was 2.2 mmol/l. We did not identify any correlation between increasing frequency of administration and lactate level nor did we find any correlation between type of condition and lactate level. A review of patients showed that raised lactate was not as a result of other potential causes, such as tissue hypoxia, acute liver injury, diabetic ketoacidosis, ethanol toxicity, drug toxicity (including metformin, salicylates) or seizures. The raised lactate had no clear prognostic implication.

Conclusions We identified raised lactate levels in all paediatric patients that had been treated with nebulised salbutamol. This