P533 CHILDHOOD OBESITY AND CIGARETTE SMOKING DURING PREGNANCY

Anwar Ayubi*, MAS Ahmed, Olajumoke Davies. *BHRUT, Romford, UK*

10.1136/archdischild-2019-epa.868

Objective The aim of this study is to examine if cigarette smoking during pregnancy is a risk factor of childhood obesity.

Methods This is a hospital based observational study over a period of 5 years. Data was collected prospectively in clinic setting. Diagnosis of obesity was based on the agreed national definition (BMI >95th centile). Main outcome factors are cigarette smoking during pregnancy, birth weight, family history (FH) of obesity, regular moderate weekly physical activity, daily duration of TV viewing, daily fruit and/or vegetable intake, diet and eating habits.

Results Cigarette smoking during pregnancy was confirmed among 68/728 (9%) obese children. 45/68 (66%) females and 9/68 (15.5%) were of ethnic origin. 58/68 (85.5%) developed obesity after age of 3 years. 61/68 (90%) were born with normal birth weight. The remaining children had birth weight of < 2.5 (n=4; 6%) or > 4.5 kg (n=3; 4%). 42/68 (62%) with positive FH of obesity. 52/68 (76.5%) watched TV more than 2 hours a day and 30/68 (44%) children carried moderate physical activity of < 4 hours a week. Dietary assessment revealed that 54/68 (79.5%) children consumed < 3 fruits or portions of vegetables a day, and 53/68 (78%) children consumed high calorie intake.

Conclusion Obesity among children of mothers with a history of cigarette smoking during pregnancy is multifactorial and cigarette smoking during pregnancy does not seem to be a major risk factor of childhood obesity. Our study is a hospital based one; therefore, its broad view should not be formally accepted without support by other population based study.

P534 HOW COMFORTABLE ARE THE DOCTORS IN GALWAY UNIVERSITY HOSPITAL PAEDIATRIC DEPARTMENT WITH DISCUSSING WEIGHT IN CHILDREN WITH OBESITY?

Dr Hope Murphy O'Connor*, Dr Niamh McGrath. *Galway University Hospital, Galway, Ireland*

10.1136/archdischild-2019-epa.869

Background Obesity a serious and complex health problem affecting a large number of paediatric patients both in Ireland and internationally, over 124 million children are affected by obesity worldwide.¹ In order to address this growing problem it is vital paediatric doctors are comfortable addressing weight issues in children. We undertook this study to discover the current practices in our paediatric department and identify areas for improvement.

Aim To assess the level of comfort among doctors in the paediatric department in Galway University Hospital (GUH) in addressing childhood obesity and determine their current clinical practice regarding investigation and management of obesity.

Material and methods The study was conducted among doctors working in GUH paediatric department in January 2019. The doctors answered questions about their level of comfort discussing obesity, factors that prevented them from being comfortable, and their current strategies for investigation, management and follow up for children with obesity.

Results Of the 27 member of the staff who took part in the study only 6 (22%) were very comfortable addressing weight concerns with parents and patients. Lack of knowledge of appropriate services and resources for obese children and their families was the most common reason clinicians gave for not being comfortable addressing the subject (33%).

All of the doctors surveyed all believed outpatient clinic to be an appropriate place to address weight issues with families (100%). Few believe the emergency department to be an appropriate place to address the issue (18%).

All the doctors studied provided exercise and dietary advice to families (100%). With a smaller number also providing information about healthy sleep habits (29%) and reducing screen time (48%).

The most commonly referral was to the Dietetics department (48%) and a large number were referred back to their General Practitioner (29%) to follow the patient's progress.

Conclusion As obesity among the paediatric population is an increasing concern it is vital for doctors working in paediatric departments to be knowledgeable and comfortable managing obese patients.

We have identified a lack of knowledge of resources and services for this population to be a barrier in providing the best care for these patients and their families. We intend to address this problem going forward by providing education to all doctors in the department.

REFERENCE

1. NCD Risk Factor Collaboration (NCD-RisC). Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016. *The Lancet*. 2016;390 (10113):P2627–P2642.

P536 MODERN OPPORTUNITIES FOR VACCINATION PCV13 IN CHILDREN SUFFERING CHRONICAL INFLAMMATION NASOPHARYNGEAL DISEASES USING RECOMBINANT α 2B-INTERFERON

Vera Vavilova*, Aleksandr Vavilov, Anastasia Cherkaeva, Irina Nechaeva. *HEKSMTU, Kemerovo, Russian Federation*

10.1136/archdischild-2019-epa.870

Aim To study the efficiency of recombinant α 2b-interferon (Viferon gel) in preparation and conducting vaccination with PCV13 in children suffering chronical inflammation nasopharyngeal diseases.

Materials and methods 1256 children aged 2–5 suffering chronical inflammation nasopharyngeal diseases 100% were observed. To prepare for the vaccination with PCV13 children in core group (n=631) were prescribed with α 2b-interferon (endonasally and on palatine tonsils 2 times a day - 10 days before and 30 days after the vaccination). In the control group (n=625) they weren't given α 2b-interferon. Comparative analysis of morbidity before and after the vaccination within 12 months' time was conducted.

Outcomes All the children observed come from the group of those often suffering from recurrent respiratory infections. On assessing the proportion of children who lapsed into illness by the time the vaccination was conducted, in the core group all the children were vaccinated on time; in the control group 13.4% of children didn't come to vaccination because of the severe respiratory infection (p = 0.000). Within 1 month after the vaccination in the core group 4.8% of children lapsed into illness, in the control group - 12.8% (p = 0.000).

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 chronic tonsillitis definitely reduced by 89.2% $\square$ 41.6%, relapses of chronic adenoiditis were only recorded in 22.9% $\square$ 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 $\alpha 2b$ -interferon.

Conclusions The usage of recombinant $\alpha 2b$ -interferon for pre-vaccination 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 $\alpha 2b$ -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?

¹Anitha Sokay*, ¹Lana Altabari, ^{1,2}Edna Roche, ^{1,2}M Nadeem, ^{1,2}Peter Greally. ¹Tallaght Hospital, Dublin, Ireland; ²Trinity College Dublin, Dublin, Ireland

10.1136/archdischild-2019-epa.871

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 previous 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 polysomnography results developed OSA, of whom one wasn't on GHT (25%).

Of the 35 patients adenotonsillectomy 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.

REFERENCES

1. Sedky K, Bennett DS, Pumariaga A. Prader willi syndrome and obstructive sleep apnea: co-occurrence in the pediatric population. *J Clin Sleep Med.* 2014;**10**(4):403–409. doi:10.5664/jcsm.3616.
2. Nixon GM, Rodda CP, Davey MJ. Longitudinal association between growth hormone therapy and obstructive sleep apnea in a child with Prader-Willi syndrome. *J Clin Endocrinol Metab.* 2011;**96**(1):29–33. doi:10.1210/jc.2010-1445.

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

John Travers, Basil Elnazir*. National Children's Hospital, Dublin, Ireland

10.1136/archdischild-2019-epa.872

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 Krebs 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