Conclusion This study shows that adolescents are at significant risk of allergic reactions, uncontrolled asthma and recurrent food reactions prior to review by a specialist allergist. 10/17 (59%) had a reaction while on the WL. Three cases were anaphylaxis. This study has prompted design of a specific information leaflet for GPs referring adolescents to the allergy clinic as well as review of criteria for urgent review in clinic.

REFERENCES

1. Pereira B, Venter C, Grundy J, Clayton CB, Arshad SH, Dean T. Prevalence of sensitization to food allergens, reported adverse reaction to foods, food avoidance, and food hypersensitivity among teenagers. *J Allergy Clin Immunol* 2005;**116**(4):884–92.
2. Sasaki M, Koplin JJ, Dharmage SC, Field MJ, Sawyer SM, McWilliam V, et al. Prevalence of clinic-defined food allergy in early adolescence: The SchoolNuts study. *J Allergy Clin Immunol* 2018 Jan;**141**(1):391–398.e4.

GP7

IMPACT OF A SYSTEMATIC RISK BASED ULTRASOUND SCREENING PROGRAM ON OPEN SURGERY RATE IN NEWBORNS WITH DEVELOPMENTAL DYSPLASIA OF THE HIP

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10.1136/archdischild-2019-epa.74

Introduction Early detection of DDH can reduce the surgical morbidity in children. A risk based ultrasound (US) screening criteria was introduced which was audited to assess its impact on open surgical rate.

Methodology All newborns born in the years 2014–2016 referred to the screening US service were included in the study. Screening criteria included breech presentation, Maternal/1stdegree relative History of DDH and Abnormal Clinical Exam. All newborns were investigated and treated with a standardized algorithm. A Comparison group of newborns referred in 2011–2013 was used. Referrals for surgical opinion were done based on abnormal clinical or radiographic findings.

Results 494 newborns 6 weeks or younger were referred in screening group. 268 Patients were treated in harness. 42 were referred for surgical opinion. 17 required surgical treatment. 12 required EUA and arthrogram, 8 closed reduction, 11 pelvic osteotomy, 1 femoral osteotomy and 7 are currently being observed. In comparison prior to screening between 2011–2013 only 81 newborns 6 weeks or younger were referred of which 27 patients required open surgery.

Conclusion There was a significant increase in outpatient but not surgical burden due to introduction of screening criteria. There was a marked improvement in early referrals.

GP8

ASSESSMENT OF NEW POTENTIAL BIOMARKERS OF INFLAMMATION IN CHILDREN WITH COW'S MILK ALLERGY

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10.1136/archdischild-2019-epa.75

Introduction Cow's milk allergy (CMA) is a frequent food allergy in young children. In some children allergy symptoms persist for many years, that is why searching for markers allowing to follow the dynamics of the inflammatory process is still underway. Currently, routinely determined parameters have a limited value in this disease and do not fully reflect all the mechanisms of the inflammatory process. The measurement of proinflammatory factors of various origins may be helpful in both diagnosis and monitoring the effectiveness of treatment in the children with CMA.

The aim of the study was to assess serum concentrations of C-reactive protein (CRP), interleukins (IL-6, IL-10) and tumor necrosis factor- α (TNF- α) in the patients with cow's milk allergy and in the healthy children.

Patients and methods The study included 20 children (aged 3–6 years) with diagnosed cow's milk allergy, who were under systematic medical and dietary control at the Institute of Mother and Child (Warsaw, Poland). Patients had been treated with elimination diet, providing a milk substitute: extensively hydrolyzed formulas (54%) and soy-based formulas (46%). Children with cow's milk allergy had different initial symptoms: atopic dermatitis, gastrointestinal symptoms, and recurrent respiratory tract infections. The control group consisted of 15 healthy children matched for age and sex.

Anthropometric measurement and dietary constituents were assessed in all studied children. Concentrations of serum CRP, IL-6, IL-10, and TNF- α were determined in serum samples by immunoassays. Statistical analyses were done using Statistica software. This study was approved by the Ethics Committee at the Institute of Mother and Child.

Results There were no significant differences in the anthropometric parameters: weight, height and body mass index in both studied groups. Average daily dietary energy and macronutrients (protein, fat, carbohydrates) intake was similar in the children with cow's milk allergy and the controls. No significant difference in serum CRP and IL-6 concentrations between the two groups of children was found. Median value of serum IL-10 and TNF- α were significantly higher ($p < 0.05$) in the children with CMA than in the healthy children: 2.10 (1.85–3.21) vs. 1.54 (1.01–2.01) pg/mL and 12.84 (9.49–14.6) vs. 10.52 (6.94–13.21) pg/mL, respectively.

Conclusion Our data allow us to suggest that IL-10 and TNF- α may be a promising biomarkers in the assessment of inflammation in the patients with cow's milk allergy.

GP9

SKULL X-RAYS IN THE DIAGNOSIS OF ABNORMAL SKULL SHAPES

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10.1136/archdischild-2019-epa.76

Introduction Differentiation between plagiocephaly and craniosynostosis continues to provide a challenge for the clinician. Historically, initial investigations would have included a skull x-ray. However, it is widely accepted that this investigation is difficult to interpret and its value in diagnosis of craniosynostosis is debated. Aside from creating the burden of additional investigations, it also exposes children to ionising radiation.

Aim and Objectives Examine the correlation between reported skull x-rays and clinical diagnosis of craniosynostosis to