112. Paediatric epidemiology: bronchiolitis, pneumonia, asthma and spirometry in non-respiratory conditions

P1166

Geographical variation in the risk of childhood pneumonia and relationships to socio-economic and health deprivation

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Introduction: Socio-economic deprivation is a recognised risk factor for childhood pneumonia, while the relevance of health deprivation is unknown. The aim of this study was to establish whether there is significant spatial variation in risk of childhood pneumonia and whether this risk was determined by health and socio-economic deprivation.
Methods: Data on childhood hospital admissions in NE England from May 1997-April 2007 (0-14 years) with a diagnosis of bacterial or lobar pneumonia were extracted from the Hospital Episode Statistics database. The spatial unit was a postcode district, which was linked with data from the health and socio-economic domains of the UK Child Wellbeing Index. Bayesian convolution models were used to model the association between standardised relative risk of admission to hospital with pneumonia in postcode districts and the deprivation indicators.
Results: There were 3874 admissions. From a total of 116 districts, 53 had a significantly different relative risk (RR) using a 95% Bayesian confidence interval (BCI) than that predicted by population alone (31 lower risk, 22 higher risk). The lowest RR was 0.32 and the highest 2.34. When the deprivation indices were included, the median effect of health deprivation was 0.43 (95% BCI 0.27-0.58). The model using only health deprivation provided the best explanation for the data (Deviance Information Criterion for null model 749.68 vs. 744.08 for health deprivation model).
Conclusions: There is substantial variation in the relative risk of pneumonia in different areas of NE England. Health deprivation better explains the spatial variation in risk than socio-economic deprivation.

P1167

Risk factors for recurrent wheezing following bronchiolitis: 3 yrs of follow-up

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We have previously demonstrated the association between bronchiolitis from Rhinovirus (RV) and recurrent wheezing after one yr of follow-up (Eur Respir J 2010; 36 (54) P2707). Our objective was to identify wheezing recurrence and related risk factors in infants with bronchiolitis from Respiratory Syncytial Virus (RSV), RV, Bocavirus (hBoV), Influenza A and B, Parainfluenza 1-3, Metapneumovirus, Adenovirus and Coronavirus detected from nasal washes with RT-PCR. 208 infants (mean age ± SD 2.4±2.1, range 0.07-11 months, 89 males) hospitalized with bronchiolitis were evaluated for recurrent wheezing (RW) during 3 yrs of follow-up. Demographic and clinical data were obtained from parents with a structured questionnaire and patient's medical files. Of they 208 infants, 152 (73%) answered to the phone call. 104 viruses were identified from 92 infants: RSV in 68 (73.9%), RV in 15 (16.3%), hBoV in 17 (18.5%), RSV+hBoV in 10 (10.9%), other viruses in 4 (4.34%). 34.9% of the infants with bronchiolitis had RW at the 3rd yr of follow-up. The related risk factors for RW were blood eosinophils counts > 400 cells/mm^3 (OR 9.26; CI 95% 1.09,79.0), breast feeding more than 2 months (OR 2.43; CI 1.20,4.89) and bronchiolitis from RV (OR 3.17; CI 1.03,9.79). At the 3rd yr of follow-up, 66.7% of the infants with bronchiolitis from RV have RW comparing to 57.1% of the infants with bronchiolitis from hBoV, 39.7% of the infants with bronchiolitis from RSV, 30% of the infants with bronchiolitis from RSV+hBoV and 25% of the infants with bronchiolitis from other viruses. In conclusion infants with RW at the 3rd yr of follow-up after acute bronchiolitis seem to be those with atopic predisposition and a specific viral infection.

P1168

Making a bronchiolitis pathway work: If at first you don't succeed ...

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Introduction: Last year we presented a poster asking why we were so poor at following bronchiolitis guidelines. A number of measures were undertaken following last year's poor performance. This year we re-audited the pathway.
Methods: In 2008 we developed a care pathway for bronchiolitis trying to reduce unnecessary investigations and treatments, and optimise supportive care. Over the first winter we failed to produce any impact [1]. Analysis showed that the problem lay in the first hours of admission, and with doctors unfamiliar with the pathway. Formal and informal feedback, and focused teaching was instituted. Monthly data on key targets were collated and disseminated to staff.
Results: Over the first 4 months of the 2010/11 season the use of unnecessary investigations and treatments fell considerably (see table). Median length of stay also fell, from 3.0 days to 2.0 days.
This translates to significant savings. The reduced length of stay saved 77.4 beddays (~£40,000 (€48,000), 0.63 beds) and approximately £1500 (€1800) in investigation costs over the 4 month period. There have also been considerable savings in treatment costs.

Rates of Rx and Ix	2008/09/10 data (%)	2010/11 data (%)
X rays	37.6	16.7
Blood tests	36.1	15.6
Blood cultures	27.0	7.8
Antibiotics	22.3	8.6
Steroids	9.0	3.7

Conclusion: Our work shows that the introduction of a guideline has to be continuously followed up with clear aims, focused teaching, and careful analysis. We believe that engaging doctors at all levels and regular feedback about progress are essential. Perseverance is important in order for the pathway to pay off, especially in a system where at regular intervals doctors rotate into the department.
Reference:
[1] Gupta et al. P2706. ERS meeting, Barcelona.

P1169

Respiratory syncytial virus (RSV) prophylaxis in special populations

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Objective: To compare palivizumab utilization and compliance, and respiratory infection (RI) outcomes in subgroups of infants at high risk for RSV within the Canadian Registry Database.
Methods: A prospective, observational, registry of infants at 29 sites who received ≥1 dose of palivizumab during the 2006-2010 RSV seasons. Utilization and RI outcomes were collected monthly over the full course of palivizumab. Infants ≤35 completed weeks gestational age without medical conditions who met standard approval criteria (Group 1) were compared to those at high risk of RI due to underlying medical illnesses (Group 2).
Results: There were more infants in Group 1 (n=4880, 84%) than Group 2 (n=952, 16%). Group 2 included Down syndrome (20.2%), upper airway anomalies (18.5%), pulmonary disorders (13.3%), cystic fibrosis (12.3%), neuromuscular impairment (8.2%), multiple system disorders (6.1%), cardiac disorders (2.7%), immunocompromise (1.8%), and miscellaneous disorders (16.9%). From 2006-2010, the proportion of Group 2 infants increased 4-fold from 5.6% (69/1224) to 19.1% (462/2413). Group 2 was older at enrollment (10.2±9.2 vs 3.5±3.1 months, p<0.005), had more advanced gestational age (35.9±6.0 vs. 30.9±5.4 weeks, p<0.005) and had higher RI (9.0% vs. 4.2%, p<0.0005) and RSV hospitalization (2.35% vs 1.32%, p=0.003) rates. Group 2 infants tended to be less compliant with treatment (69.4% vs. 72.8%, p=0.048). Group (p=0.015) was an independent

predictor of RSV hospitalization over compliance (p=0.951; model: $\chi 2=5.273$, df=1, p=0.022).
Conclusion: Results imply that infants with underlying medical disorders, though not currently approved for prophylaxis, are at an elevated risk for both RI and RSV hospitalization.

P1170
Associations between bronchiolitis and respiratory outcomes at 18 years in the PIAF birth cohort
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Introduction: The Perth infant asthma follow-up (PIAF) study is a birth cohort of unselected subjects who have undergone longitudinal respiratory assessments from birth to 18 years. We previously reported that individuals with bronchiolitis had reduced lung function and increased wheeze in later childhood. We also found that there was reduction in lung function in individuals both before bronchiolitis and at 11 years of age.
Aim: To investigate the relationship between bronchiolitis and respiratory outcomes in early adulthood.
Methods: Children had prospective assessments performed at 1, 6 and 12 months and again at 6, 11 and 18 years. They included a questionnaire, lung function, airway responsiveness and skin prick testing.
Results: The initial recruitment population was 253. We followed up 150 children at 18 years, of which 20 had current asthma and 13 had persistent asthma. There were 16 cases of confirmed bronchiolitis previously identified. We found a significant association between bronchiolitis and "ever being diagnosed with asthma" (p=0.01, OR 7.35, 95%CI 1.5 to 35.0) and "ever being diagnosed with asthma" (p=0.03, OR 5.1, 95%CI 1.1 to 23.2) at 18 years. Children diagnosed with bronchiolitis had a mean reduced FEF of 16% (95% CI;-1.4 to -0.8, p=0.03) when compared to rest of the cohort at 18 years.
Conclusion: These data confirm that the reduced flows at 1 month and 11 years were not fortuitous and suggests that this group have airways that predisposed to bronchiolitis in infancy, increased asthma in childhood, no increase in active symptoms in early adult life but will need follow up to see if they are prone to conditions such as COPD or tobacco related lung disease.

P1171
The association of caesarean section delivery with asthma and atopy in children: Effect modification by family history of allergies
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Introduction: Studies on the association of birth by caesarean section and allergies have produced conflicting findings. Evidence on whether this relation may differ in those at risk of atopy is limited.
Aim: To investigate the association of mode of delivery with asthma and atopic sensitization and the extend to which this effect is modified by family history of allergies
Methods: Asthma outcomes were assessed cross-sectionally in 2216 children aged 8 using the ISAAC questionnaire whilst in a random subgroup of 746 skin prick tests to eleven allergens were also performed. Adjusted odds ratios of asthma and atopy by mode of delivery were estimated in multivariable logistic models.
Results: After adjusting for potential confounders, children born by caesarean section as compared to vaginally had significantly higher odds of reporting ever having wheeze (OR 1.36, 95%CI 1.07-1.71), asthma diagnosis (OR 1.41, 95%CI 1.09-1.83) and atopic sensitization (OR 1.67, 95%CI 1.08-2.60). There was some evidence that family history of allergies may modify the effect of caesarean section delivery on atopy (p for effect modification=0.06) but not asthma. More specifically, children with a family history of allergies had double the odds of atopic sensitization if born by caesarean section (OR 2.34, 95%CI 1.20-4.54) whilst a non-significant association was observed in children without a family history of allergies (OR 1.27, 95%CI 0.69-2.36)
Conclusion: Birth by caesarean section is associated with asthma and atopic sensitization in childhood. The association of caesarean delivery and atopy but not asthma is more pronounced in children with family history of allergies.

P1172
Physical activity and asthma symptoms in a population-based cohort
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Aim: Longitudinal data on physical activity and asthma in children are scarce. We aimed to assess, whether physical activity differs between children with and without asthma symptoms.
Methods: In a population-based cohort, we collected information on physical activity and respiratory symptoms (wheeze, cough without colds, night cough) by questionnaire at ages 4-8 (N= 5212) and 6-10 years (N=4236). We compared prevalence of symptoms between inactive (0-1 hour/day of outdoor play) and active (≥2 hours/day) children.
Results: At age 4-8, 4447 children (85%) were active, at age 6-10, 3686 (87%). In 4-8 years olds, 17% of active and 19% of inactive children had current wheeze (p=0.139), 38% vs. 41% had cough without colds (p=0.142), 27% vs. 33% had cough at night (p=0.003), 12% vs. 12% had moderate wheeze needing inhaler treatment (p=0.565). In 6-10 year olds, 15% of active vs. 16% of inactive children had current wheeze (p=0.636), 36% vs. 40% had cough without colds (p=0.066), 25% vs. 30% had cough at night (p=0.008), and 10% in both groups had wheeze necessitating treatment (p=0.701).
Conclusions: Physical activity levels were comparable between children with and without asthma related symptoms, with small differences only seen mainly for cough at night. Further analysis will investigate whether this is due to insufficient asthma treatment, and determine potential long-term effects of physical activity on prognosis of symptoms and lung function.

P1173
Prevalence of asthma and allergies in the Greek (G/C) and Turkish (T/C) communities in Cyprus
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Background: The G/C and T/C communities have been living apart for more than 30 years, with the former presumably leading a more westernised lifestyle.
Aim: To estimate the prevalence of allergic diseases in both communities and investigate whether any lifestyle characteristics underlie the observed differences.
Methods: The ISAAC questionnaire enriched with questions on lifestyle was completed for 10156 children aged 7-8 and 13-14 years. Odds ratios of asthmatic and allergic symptoms between communities were estimated after controlling for potential risk factors in multiple logistic regression models.
Results: With the exception of eczema, slightly but consistently lower prevalence was observed for all other outcomes among G/C community in both age-groups. The prevalence of wheezing among 7-8 year-olds was 8.7% vs 11.4% (OR=0.74, p<0.01). Family history of atopy and early nursery attendance were elevated amongst the G/C. Other favourable factors as projected in the hygiene hypothesis were more frequent in the T/C community, including higher proportion in less urban areas (60% vs 34%), bedroom sharing (52% vs 37%) and exposure to farm animals (4.7% vs 0.6%). The same picture emerged in the 13-14 year old group. Controlling for participants' characteristics did not overturn the observed pattern in terms of community in either age-group e.g. the adjusted OR for wheezing remained at 0.73 (p=0.03) in the younger age-group.
Conclusions: Observed differences in the prevalence of risk factors between the two communities did not account for the lower prevalence of asthma and allergies among G/C children, suggesting that other factors not related to the hygiene hypothesis might be at play.

P1174
Assessment of primary care doctor's diagnosed bronchial asthma in schoolchildren
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Rationale: In primary care settings the clinical diagnosis of paediatric asthma is mainly based on symptoms.
Objective: To assess diagnostic outcome in schoolchildren referred to a secondary paediatric referral centre with a suspected or established primary care doctor's diagnosis of bronchial asthma.
Methods: Children with a suspected or established primary care doctor's diagnosis of bronchial asthma were included in the survey. At referral and during a 6 months evaluation period patient characteristics, history, symptoms, signs and results of type 1 allergy tests, spirometry, post bronchial beta-2 agonist dilation tests, 4-weeks daily measurement of peak flow rates, corticosteroid reversibility trials and exercise challenge tests were entered into a pre-defined electronic form. The secondary centre diagnosis of asthma was based on these data.
Results: 665 consecutively referred children aged 5-15 (mean 8.1) years, 233 girls (35%) and 432 boys (65%), were included in the study. 183 (27.5%) children had a referral diagnosis of suspected asthma, 482 (72.5%) an established referral diagnosis of asthma. In the latter group 316 children (65.5%) were on inhaled steroids at the time of referral, 166 ((34.5%) were not. In the groups of suspected and established asthma the diagnosis was confirmed in 82 (44.8%) and 200 (41.5%), respectively.
Conclusions: In more than half of schoolchildren with a suspected or established primary care doctor's diagnosis of asthma referred to a secondary paediatric re-

ferral centre the diagnosis may not be confirmed. Sensitivity and specificity of the diagnosis of asthma in schoolchildren established in primary care settings need further improvement.

P1175

Evidence that children can assess their asthma medication devices

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Introduction: The value of obtaining children's reports about their health from questionnaires is important in clinical paediatrics and child health research. FSI-10 questionnaire for asthma devices' assessment has been developed and implemented for adult patients. The reliable Greek version has also been used in adults for both clinical practice and research.
Objectives: The aim of this pilot study was to examine the suitability of Greek FSI-10 in asthmatic children in order to measure their satisfaction and the usability of inhalers in daily practice.
Methods: This 8-week pilot study was designed and conducted as an open label, single-centre, non interventional, notified to regulatory authorities. Patients have consented in study participation by their legally authorised persons. 33 (15 female) asthmatic school children aged between 6 and 16 years were on the same device use at least two months before study enrollment. Four different breath activated dry powder inhalers (Aeroliser®, Elpenhaler®, Diskus®, Turbuhaler®) were used by study subjects. Questionnaire's items were child-reported and completed by the two pediatricians who interviewed in details the selected patients at the end of the study. All necessary clarifications and explanations were also given by the phycisians during interview.
Results: Evidence that school children can reliably assess their inhalers by using the Greek FSI-10 was concluded. The questionnaire was easily understood. Reliability was very good as shown by Cronbach test (Cronbach's alpha = 0.925).
Conclusions: Greek FSI-10 may be used in pediatric school aged population. Minor modifications may improve its measuring properties and reliability. Further work on this topic is needed.

P1176

Validation of history on atopy and childhood illness in a clinical birth cohort study

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Background: The longitudinal birth cohort study is the preferred design for studies of childhood health, particularly asthma and other atopic diseases. Still, prospective data collection depends on recollection of the medical history representing a potential recall-bias.
Aims: We aimed to ascertain completeness of our data on atopic disease and other health symptoms reported in a closely monitored birth cohort study. Possible bias from symptom severity and socioeconomics were sought.
Methods: The Copenhagen study on Asthma in Childhood (COPSAC) is a clinical birth cohort study of 411 children. Child health is monitored at 6-montly clinic visits from birth till age 3 with a particular emphasis on asthma and other atopic diseases. Cohort information of 260 children was compared with the records from family practitioner as an external reference.
Results: A total of 6134 medical events were reported at the COPSAC interviews. Additional 586 medical events were recorded by family practitioners, but not reported at the interview. None of these missed events were related to atopic disease. Respiratory, infectious and skin related symptoms showed completeness above 90%, other diseases showed lower completeness around 77%. There was no meaningful influence from concurrent asthma or socioeconomics, including household income, mother's education or employment.
Conclusion: The COPSAC study exhibited full completeness to the main study objectives, atopic disease, and high completeness to respiratory, infectious and skin related illness. Our findings support the validity of clinical interviews of parents in longitudinal cohort studies investigating childhood illness and atopic disease in childhood.

P1177

Psychogenic cough: Clinical and laboratory characteristics

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Background: A bizarre loud and honking cough which increases with increased attention and is absent at night in an otherwise well child suggests a psychogenic origin.
Aim – method: Clinical and laboratory characteristics of children with psychogenic cough were analyzed retrospectively. Children were followed up in a Paediatric Respiratory clinic, over a nine year period.
Results: 114 children with psychogenic cough (46% boys) aged 4.5 - 18 years were evaluated. Mean duration of the cough was 8.66±11.1 months. Clinical characteristics of cough were: harsh and explosive (85%), croupy and barking (14%), exacerbating in the presence of medical staff (62%), disappearing with sleep (98%), not exacerbated with exercise (82%), not accompanied with wheeze (98%). Fifty-three children (46%) appeared to be under psychological stress, including school phobias, attention seeking, or anxiety (28%) and parental strife (18%). Sixty-three children (55%) had been prescribed antitussive medication, salbutamol, inhaled and oral steroids, or anti-histamines, with no response. Physical examination and lung function tests were normal. Among 21% of the children flexible bronchoscopy was normal. Explanation and discussion of the problems that appeared to be associated with the cough were beneficial for 81% of the patients. 6% of cases with persistent symptoms despite reassurance were referred for psychiatric consultation.
Conclusions: In children with chronic cough, the characteristics of the cough may be suggestive of psychogenic cough. The physician's awareness of the possibility of psychogenic factors in the aetiology of persistent cough may help in early diagnosis and thus unnecessary and expensive investigations may be avoided.

P1178

Tourette's syndrome manifest as chronic cough in children

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Background: Tourette's syndrome (TS) is a neuropsychiatric disorder characterized by the presence of involuntary motor and phonics tics. Some of the involuntary phonic tics may present as coughing, grunting, and wheezing. These symptoms may easily be confused with the symptoms associated with the disorders causing chronic persistent cough. The purpose of this study was to present our experience of the clinical manifestation and treatment outcome of the TS.
Material and methods: Retrospective review studies were done from Jan 2008 to Dec. 2010. There were 8 patients met the criteria of TS who initially present as chronic cough (cough > 4 weeks) in OPD.
Results: Their ages ranged between 6 and 17 years old. Of these patients, 6 (75%) were boys, 2 (25%) were girls. The onset of vocal tics is less than 1 year after the onset of motor tics. All cases showed simultaneously multiple tics. The most common tics in TS were throat clearing (5/8), facial grimacing (4/8),mouth opening (4/8), barking cough (3/8), head turning (2/8), shoulder jerk (2/8). Two of 8 patients were associated with the behavioral disorders, obsessive-compulsive disorder (1/8), attention-deficit disorder (2/8). No known of positive familial history in our patients. All patients suffered from rhinitis more or less and S/S could fully remit after aggressive nasal management except 2 patients.
Conclusion: We would like to point out that TS should also be considered in children with chronic cough. This may help prevent the potential unwanted effects of the drugs which are presumptively given to these patients.

P1179

Prognostic importance of congenital stridor occurred during the 1st year of life in children of five years of age

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Introduction: Stridor usually manifests after birth or at the age of 1 month and often disappears at 2-4 years of age without any treatment. The absence of data on growth and development of children with congenital stridor in literature have become the point of our research.
Objective: To evaluate the impact of congenital stridor in infants as a predictor of chronic diseases.
Methods: We examined 114 1-year old patients with congenital stridor. 60 children were included in 5-year catamnesis data. Our cohort consisted of children with persistent congenital stridor, excluding children with stridor due to ARD or tracheal intubation.
Results: On their admission to the hospital all children had stridor of various degrees, 21,9% had regurgitation, 7% - choking, 7,9% - projectile vomiting, 5,3% were short-winded, 4,4% had sleep apnea and voice change. All children underwent thorough examination, rhinolahryngoscopy was performed in 94 patients.
Laryngomalacia was diagnosed in 80%, accompanied by pharyngolaryngeal reflux and gastroesophageal reflux in 93,3%. Reflux-esophagitis without inflammatory changes was found in 53,3%. All patients had connective tissue dysplasia. Mitral valve failure was present in 35%, PFO - in 16,7%, heart rate abnormalities - in 21,7%. Chest deformations were found in 45%, hypermobility of joints - in 38,8%.
Conclusions: Congenital stridor may serve as a predictor of chronic disorders of gastrointestinal tract, ENT-system, dysplasia of connective tissue, cardiovascular diseases. Children with congenital stridor need to undergo detailed examinations and long-term regular medical check-ups in order to minimize the risk of complications.

P1180

Factors associated and attack rate in adenovirus infection among children with chronic respiratory disease

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Background: Intrahospital adenovirus infections spread easily causing a profound impact in morbidity and mortality associated with outbreaks.
Objectives: To identify the attack rate of adenovirus infection in a hospital for children with chronic respiratory diseases (CRD) and to assess the factors associated to the infection.
Material and methods: Fifty children with CRD were evaluated between June 2010 and October 2010 at Josefina Martinez Hospital. They were exposed during the Winter Campaign to patients with respiratory infections admitted during that period. "Case" was defined as "Case". Univariate and multivariate logistic regression models were used to calculate odds ratios and 95% confidence intervals for selected variables: gender, age, tracheostomy and gastrostomy.
Results: Twenty four of chronic patients (48%) were younger than 2 years old and nineteen of them (38%) were 2 to 5 years old, 68% of all children have tracheostomy and 50% of them have gastrostomy. The attack rate was 50% in three months. There was no mortality. Risk factor associated with adenovirus infection was age 0 to 23 months old (OR = 11.1, 95% CI 1.12 - 109.6, p = 0.039). There was no association with other variables.
Conclusions: It is important to strengthen prevention measures for adenovirus infection, and these should be kept as long as viral shedding is prolonged. Closed hospitals allow a rapid dissemination. Infants are highly vulnerable. Tracheostomy is not associated with increased risk of infection.

P1181

Pulmonary function abnormalities in Egyptian sickle cell disease patients

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Background: Pulmonary complications account for significant morbidity and mortality in sickle cell disease (SCD) patients. Abnormal pulmonary functions (PFTs) in these patients include airway obstruction, restriction, abnormal diffusing capacity, and hypoxemia. This study was carried out to assess PFTs among SCD patients, and the effects of different clinical and laboratory variables on PFTs.
Methods: Forty five steady state SCD patients, previously diagnosed and followed up at the Hematology Outpatient Clinic of New Children Hospital; Cairo University, were included. Twenty seven were homozygous for HbSS and 18 sickle β thalassemia. Their mean age was 15.1 years with a range of 5-33years. Clinical, laboratory and PFTs were performed.
Results: Abnormalities of PFTs were found in 57.8% of our patients (n=26, 23 having restrictive and 3 obstructive patterns). According to severity of affection, 44.4%, 8.9% and 4.4% had mild, moderate and moderate to severe abnormalities respectively. Patients' age was the only clinical variable that showed a statistically significant difference between SCD patients with normal and abnormal PFTs (p=0.02) and between those with normal and restrictive patterns (p =0.05). Frequency of vaso-occlusive crisis and serum ferritin level showed a statistically significant relation with severity of pulmonary affection (p=0.01 and 0.01 respectively). No statistically significant difference in parameters of PFTs of patients on hydroxyurea (HU) and those not.
Conclusion: Pulmonary function abnormalities, mostly mild and restrictive, were found among our SCD patients. These changes may be more prominent with increasing age. Severity of pulmonary affection was related to frequency of VOC.

P1182

Pulmonary function in children with inflammatory bowel disease do not differ from healthy population

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Crohn's disease (CD) and ulcerative colitis (UC) are multisystem disorders. Besides inflammatory process in the mucosa of the gastrointestinal tract there is an evidence of an existence of extraintestinal inflammation. This include pulmonary involvement. There are no exact data showing the prevalence of inflammatory bowel disease (IBD)-correlated lung manifestation in children. The aim of the study was to investigate pulmonary involvement in children with IBD.
Material and methods: Fifty patients with IBD (25 with CU and 25 with CD, mean age 14,19±3,2) and 39 healthy control subjects (mean age 13,97±3,47) were included in the study. All patients from study and control group underwent standard spirometry, whole body pletysmography, assessment of diffusing lung capacity for carbon monoxide (DLCO).
Results: There were no significant differences between study and control groups Lung volumes remain within normal limits. DLCO was abnormal in 9 (18%) and 6 (15.3%) children from study and control group, respectively. We found one patient (2%) with decreased vital capacity (restriction not confirmed by whole body pletysmography) and two (4%) with obstructive changes in IBD group. In two patients from control group (5.1%) airway obstruction was diagnosed. Small airways tests were abnormal in 13 (26%) subjects from study group and in 13 (33%) control patients.
Conclusion: Pulmonary function in children with inflammatory bowel disease do not differ from healthy population.

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