for a spectrum of respiratory tract illnesses resulting in a hospitalization rate of 6.0%. The overall RSV positive hospitalization rate was 1.47% with no mortal-
ity. Living with siblings was significantly correlated with a shorter time to first RSV-positive hospitalization (B=0.615, df=1, p=0.046).

Conclusions: The RSV hospitalization rate observed in the 2005-2010 RSV sea-
sons was similar to that found in several published reports of infants receiving prophylaxis (range 1.3%-5.3%).

P1149 Increasing immunosuppression despite high load of respiratory viruses: Fludarabine as rescue treatment in alloreactive lung disease
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Background: Allo immune lung syndromes (alloLS) as Bronchiolitis obliterans syndrome and ideopathic pulmonary syndrome are life threatening complications after allogeneic hematopoietic stem cell transplantation (HSCT) or lungtransplantation (LTX; rejection). Respiratory virus infections trigger these alloLS. If conventional treatment with corticosteroids is not effective, 2nd line therapy may be needed.

Aim: To describe safety and efficacy of the T-cell depleting agent fludarabine to treat allo immuneLS in the presence of viral infections

Methods: We describe 5 patients (4 HSCT, 1 LTX) with steroid refractory alloLS who were therefore treated with fludarabine. 30mg/m² on a 3 weekly basis. Viral persistence of respiratory viruses was monitored by quantitative PCR before and during treatment.

Results: The five patients all initially had good engraftment, but developed res-
piratory complications. 4 patients were positive in BAL and/or nasopharyngeal aspirate with cycle threshold (CT values <30 for: rhinovirus (2), parainfluenza and RSV (1) and adenovirus (1)). 4/5 patients had initial response after mean 2.4 (range 1-4) courses. The LTX patient improved clinically as well as for FEV1 for 2 months and then had a relapse with progression of the alloLS. One patient died from aspergillosis after 2 months. 3 patients had sustained response. Viral load (expressed in CT values) remained high in all patients, without occurrence of systemic disease.

Conclusions: Fludarabine is feasible and an effective 2nd line treatment of steroid refractory allo immune lung syndromes, without an increase in viral load. This empirical treatment now deserves a controlled study.

P1150 Lung function of preschoolers with parapneumonic effusions complicating community acquired pneumonia
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Background: Parapneumonic effusions as a complication of community acquired pneumonia (CAP) in children show an increasing prevalence.

Aim: To monitor expiratory Interrupter Resistance (Rint), Lung Clearence Index (LCI) and chest X-Ray among preschoolers with parapneumonic effusions.

Methods: We evaluated children hospitalized with pleural effusion as a compli-
cation of CAP. Expiratory interrupter resistance (Rint) and Lung Clearence Index (LCI) were measured on the day of discharge and six months later.

Results: 13 preschoolers, aged 3.58±1.21 years were studied. In 11/13 (84.6%) Streptococcus Pneumonia was isolated. 84.6% had chest drainage, intrathoracic urokinase was administrated in 69.2% of the children. Two children developed broncho-pleural fistula and one pericarditis. Lung decortication was documented in 1 child. 38.4% of the patients had abnormal chest X-ray, 6 months later. Children with pleural effusions had significantly higher Rint on day of discharge (1.12±0.34 kPa vs 0.78±0.20 kPa, L<0.05, <p<0.001). Six months later Rint was reduced to normal levels (0.77±0.31 kPa, L<0.05, <p<0.001). Children with pleural effusion had significantly higher LCI compared to controls (mean difference [95% CI] 2.8 [1.9, 3.8], p<0.001). Six months later, 46.15% of the children had significantly high LCI, six months later. LCI is a sensitive marker that detects abnormal lung function and could be used to monitor preschoolers with parapneumonic effusions complicating CAP.

P1151 Recurrent respiratory tract infections in the preschoolers and IgG3 deficiency
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Introduction: Recurrent respiratory infections (RRI) are a common cause of morbidity during childhood.

Materials and methods: We report four cases of otherwise healthy preschool children who were referred to our paediatric allergy clinic for lower RRI with wheezing, crackles, cough and rhinitis, mostly during the autumn and winter
months, since they started attending kindergarten. They were being treated with antibiotics, inhaled beta-2 agonists and corticosteroids for the exacerbations. They were on prophylactic therapy with fluticasone 200μg/day and montelukast 4mg/day, with no improvement. There was no history of atopy and the skin prick tests to common allergens were negative. Chest-t-ray and sweat test were normal. All patients underwent an immunologic screening that included CBC, ESR, CRP, serum concentration of IgG, IgA, IgM, IgE, IgG1, IgG2, IgG3 and IgG4. The major Ig isotypes and the IgG subclasses were quantified by rate nephelometry. The laboratory investigation results were all within normal limits except of IgG3 which was in all patients below the 5th centile, based on published Greek normative data. IgG3 levels were: patient 1, aged 3.5: 10.5mg/dl (normal values 17-90), patient 2, aged 4.5: 20.7mg/dl (normal values 24-85), patient 3, aged 5: 13.6mg/dl (normal values 24-85), patient 4, aged 6: 14mg/dl (normal values 22-100).

Conclusion: IgG3 deficiency should not be ignored as a possible cause of RRI. Although it may be a transient phenomenon, it is prudent to follow these patients as some might evolve into common variable immunodeficiency. Moreover the use of increased doses of inhaled or systemic corticosteroids may delay the clearance of the virus from the respiratory tract.

P1152

Development of a set of reagents for real-time PCR diagnostics and surveillance of infections caused by B. pertussis, B. parapertussis and B. bronchiseptica

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Pertussis is a Vaccine-preventable disease, but the goal to reduce the incidences of whooping cough by 2010 to 1 case per 100,000, has not been achieved in any country. Causative agent of whooping cough is B. pertussis, but B. parapertussis, cause of about 45% of clinical whooping cough cases. Cross-immunity against B. parapertussis is absent. Our goal was to develop a set of reagents for Real-Time PCR differential identification of B. pertussis, B. parapertussis and B. bronchiseptica. The complexity is that genomes of these species are very similar. To solve this problem specific primers and probes have been chosen for detection of four targets in one tube. One of the targets is pertussis toxin (ptx) gene, which presents in genomes of B. pertussis, B. parapertussis and B. bronchiseptica. The second one is gene unique for Bordetella pertussis, the third one is gene unique for B. bronchiseptica. Fourth target is an exogenous internal control for assessment the efficacy of all stages of PCR analysis. Analytical sensitivity of developed set of reagents is 5*10^3 genomic units/ml of the sample. 51 Bordetella cultures isolated from children clinical samples with whooping cough in Russia in 1967 - 2011 and 6 Bordetella strains from animal were tested. The specificity of Bordetella species identification has been proved by sequencing of pertussis toxin gene promoter region. Preliminary results on 188 clinical samples have revealed high diagnostic efficacy of developed set of reagents.

P1153

Diagnostic capabilities of the T SPOT TB in children with tuberculosis bronchialicus: University Clinic for Lung Diseases – Sofia, Bulgaria

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Bronchialicus TB is the most common form of tuberculosis disease in childhood. In Bulgaria about 67% of all patients newly diagnosed children with this diagnosis. The purpose of this study was to determine the diagnostic capabilities of the T SPOT TB in this form of TB disease.

In a period of one year were examined in 50 children ages 0-12 years treated in other hospital with tuberculosis of lung lymph nodes. The diagnosis was set based on history, clinical, microbiological and radiological check you. TST and T SPOT TB test were performed simultaneously in the studied children. It was investigated the relationship between immunological samples TST and T SPOT TB compared contacted hectic age, BCG status and sputm smear microscopy. If no children with TST negative results, 44% were normergichni reactions to 15 mm. 56% were hiperergyria. > 15 mm.

In a study with T SPOT TB 28% gave negative results and 72% positive. Most children 4% responded to both applied antigen, 20% of the CFP and only 8% of ESAT 6. As a result of the study made the following conclusions: 1. T SPOT TB has its place in the diagnosis of tuberculous especially in countries with compulsory BCG vaccination Bulgaria. 2. T SPOT TB has a better diagnostic capabilities in major age groups 3. It was a good correlation between the two tests - the percentage correlation 80%. 4. The sensitivity of the T SPOT TB was 70% and 90% in TST.
P1157
Clinical characteristics of pediatric patients affected with H1N1/2009 pandemic influenza A virus who needed hospital admittance in the western region of Guatemala
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Introduction: A new variant of the H1N1 influenza A virus caused a pandemic from 2009 until the second semester of 2010.
Aim: To review the clinical characteristics of children who needed admission to our hospital due to a respiratory infection caused by H1N1/2009 influenza A pandemic virus.

Methods: We included in this review all pediatric patients who were admitted to our hospital due to H1N1/2009 influenza A pandemic virus infection, detected by a polymerase chain reaction test in a nasopharyngeal aspirate, sent to the CDC in the US, for accurate viral classification.

Results: We reviewed 40 clinical files. 24 were male; mean age 19 months. 47% were severely malnourished. Three symptoms were predominant in these patients: fever, cough and some degree of respiratory distress. 87.5% of these patients suffered from pneumonia, the main indication to be admitted to the pediatric ward. Hematocrit biometries were normal. C reactive protein mean value of 30 mg/d.l in 26 cases. Only one patient received oseltamivir, but 87% (30 patients) were under antibiotics since admission. 10% required mechanical ventilation. An alveolar radiological pattern was seen in 70% of the chest X rays. Mean time hospitalization 7.5 days. The primary outcome of the study, mortality rate, was 7.5% (3 cases).

Conclusion: The mortality due to H1N1 2009 influenza A pandemic virus was low, even though most of our patients were malnourished, had pneumonia and did not receive antiviral treatment. This data correlates with data from other series in which mortality rate from this new pandemic influenza virus was lower than expected.

P1158
Outcome of H1N1 infection in hospitalised paediatric patients in a tertiary hospital
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Introduction: In Oman, a total of 7040 cases tested positive for H1NI with 31 deaths, till February 2010. We describe the clinical characteristics of children admitted to Sultan Qaboos University Hospital (SQUH) from September 2009 to February 2010.

Methods: The clinical data of all children with influenza like illness were reviewed.

The diagnosis was confirmed in 38 cases by positive RT-PCR assay.

Results: A total of 243 children were admitted with influenza like symptoms, out of which 38 tested positive for H1NI. The mean age group was 4 years 1 month. The time between onset of symptoms and admission ranged from 1-22 days. The duration of admission from 1-22days/LFT was abnormal in 2 children. None of the confirmed cases had been vaccinated. 25 of these 38 patients had co morbidities. The most frequently reported symptom was cough and the most frequent sign was fever. Chest X ray was done for 27 of them and 14 patients had evidence of pneumonia. Twelve percent of the cases had leucocytosis and leucopaenia respectively. Thirty percent had elevated CRP, the highest being 146. One child required prolonged oxygen and needed intensive care including CPAP. No death was reported. All patients except one, were given oseltamivir; after swabs were taken for diagnosis. The duration of therapy was 5 days and no significant adverse reactions were noted. No complications, related to H1N1 were noted in any of the patients.

Conclusion: Influenza A virus infection affected all age groups, including children less than 12 years of age. The mortality rate in the adult population was 7% in hospitalised patients in Oman (AlLawati et al, SQU/M 2011:10:326-324) but no child died due to H1N1 infection at SQUH or in any hospital in Oman.

P1159
Risk-factors of negative predictive value of cardiovascular system damage in children with recurrent respiratory tract diseases
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Introduction: Socio-economic problems in our country had a great influence on health degree of population. The myocardic disorders in early age have meaningfully risen all around in Georgia. The conventionally accepted risk-factors of cardiovascular system disorders: Smoking, obesity, low physical activity, poor nutrition, congenital load rate, and standard social and medical risk factors was taken into account in our study.

Aims: Revealing of prognostic risk-factors of negative predictive value in cardiovascular system damages in children with recurrent respiratory tract diseases and building up the preventive strategy.

Methods: A cross-sectional study was held. Examination involvement criteria were as follows: children’s age (from 3 to 15). Pathological recurrent progressive- ness of the respiratory system pathologies (5-7 episodes within the last year). The study was carried out on the base of applications worked out by us according to American Heart Association recommendation.

Results: The results are given in Table 1.

Table 1 Results

<table>
<thead>
<tr>
<th>Risk-factors</th>
<th>Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cigarette smoking</td>
<td>1.2 1.77</td>
</tr>
<tr>
<td>Congenital load rate</td>
<td>2.5 3.8</td>
</tr>
<tr>
<td>Obesity</td>
<td>1 1.37</td>
</tr>
<tr>
<td>Low physical activity</td>
<td>0.8 1.17</td>
</tr>
<tr>
<td>Poor Nutrition</td>
<td>2.7 4</td>
</tr>
<tr>
<td>Abnormalities in History of Pregnancy and/or Delivery</td>
<td>1.9 2.7</td>
</tr>
<tr>
<td>Poor Habit Status</td>
<td>1 1.4</td>
</tr>
<tr>
<td>Presence of Staphylococcal Infections</td>
<td>1.75 5.4</td>
</tr>
</tbody>
</table>

Conclusions: Study revealed the prognostic risk-factors of cardiovascular system damages in children in Georgia with respiratory tract diseases. The application applied by us in the study, can be used by pediatrics as well to reveal of children of high risk group and build up the preventive strategy.

P1160
Impact of cough on quality of sleep and effect of anti-tussive treatment in children: An observational study
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Background: Cough is one of the most frequent symptoms in children and is the most common symptom for which children are visited by primary care paediatricians.

Methods: We studied 433 children who required a paediatrician specific consultation for acute cough and analyzed quality of sleep and anti-tussive treatment.

Results: The mean age of the children was 6.1 years (DS 3.6). Cough disturbed sleep in 87.5% of children (Fig.1) and in 71% of parents.

The number of children treated with peripheral anti-tussives (leodropropizine n=101) was higher than with central anti-tussives (codeine and cloperastine n=60). Percentage of cough resolution was significantly higher with leodropropizine than with central anti-tussives (47% vs. 28% respectively, p=0.0012) (Fig 2). Percentage of no change or worsening was lower for leodropropizine vs. central drugs (3% vs. 18%, respectively).

Conclusions: Cough disturbed children and parents sleep. Both peripheral and central anti-tussives were effective in reducing cough intensity, with an advantage for leodropropizine in terms of higher cough resolution and lower unsuccessful treatment.
P1161
Primary ciliary aplasia as a cause of recurrent respiratory infections in an infertile young man
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We present a case of primary ciliary aplasia (PCA) a rare form of primary ciliary dyskinesia, characterised by the total absence of cilia in respiratory and sperm cells.

B.A. was born to healthy, first-degree related parents (first cousins). A few hours following birth, the patient developed the first of recurrent upper and lower respiratory tract infections. Cystic fibrosis, major immune deficiencies and allergic sensitization were excluded. Chest CT showed diffuse bronchiectasis of both middle lobes. Nasal and bronchial mucosa samples on transmission electron microscopy revealed total lack of cilia and basal bodies on columnar epithelial cells, despite displaying the morphological features of ciliated cells. At puberty, testicular volume and serum hormone levels were normal. Seminal fluid analysis revealed: ejaculate volume of 0.6 ml; pH 8; low sperm concentration (0.5-0.7 million of spermatozoa/ml); and asthenospermia-terathospermia (immotile spermatozoa and abnormal shape). Sperm head size was normal. Semen was collected at the end of puberty and ultrasonic examination of the prostate gland revealed a normal size and shape. The diagnosis of PCA was made. The clinical presentation at birth and the parents’ consanguinity make it unlikely that these changes are the result of infection or exposure to pollutants, thus supporting the hypothesis that PCA can be an inherited disorder.

P1162
A neonate with respiratory distress and unilateral pulmonary hyperinflation
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Introduction: Bronchial atresia is characterized by a mucus-filled bronchocele in a blind-ending segmental or lobar bronchus, with hyperinflation of the obstructed segment of lung. We report a case of bronchial atresia in a neonate with Congenital Cytomegalovirus infection.

Case report: A 9-day old boy presented with history of increased work of breathing and cyanosis. Antenatal ultrasound at 22 weeks of gestation demonstrated hydrops-echo changes in the thorax and abdomen which did not progress through-out pregnancy. At presentation to hospital he was in moderate respiratory distress and was commenced on CPAP but he required mechanical ventilation in the 2nd week of life. He had a normal white cell count, C-reactive protein & negative blood cultures. CMV was detected by PCR in urine and blood, and in extravascular aspirate samples. Blood samples from newborn screen taken on day 2 of life was also positive for CMV by PCR, CMV IgM antibody was also positive. A chest CT scan was performed (Figure A, B & C). The child had a right middle lobebronchy & pathology revealed a bronchocele with an 11 mm mucus plug (Figure D) in a sub-segmental bronchus of the right middle lobe. CMV inclusions with minimal surrounding inflammation were noted on microscopy of the peripheral lung. In summary, this is the first reported case of bronchial atresia occurring with cCMV infection which may give further insight into the pathogenesis of this rare condition.

P1163
A girl with extensive dissemination of thoracic echinococcosis
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A 10 year old girl from Iran was routinely screened for tuberculosis after immigration. She reported chronic cough and chest pain during the past year. A cystic lesion was detected on chest X-ray, and confirmed by a chest CT which also showed some pleural nodules. The sputum cultures were negative. The patient was treated with antibiotics and her symptoms disappeared. Surgery was scheduled to make a final diagnosis and because of the infection risk, with a diagnosis of infected CCAM and pleural adhesions. Before surgery we made a MRI scan which revealed a massive amount of cystic lesions, occupying a large part of her left hemithorax. We now suspected disseminated thoracic echinococcus, and repeated serology, which was now positive. After albendazole pretreatment a left lower lobectomy and resection of a large number of cysts was performed. Retrospectively, she had experienced an episode where she had noticed a salty taste and had expectedorate white matter, presumable as a sign of endobronchial rupture of an echinococcus cyst. In conclusion, we present a rare case of extensively disseminated pulmonary and thoracic echinococcosis, which might have been prevented by careful medical history taking, which could have detected cyst rupture.

P1164
Chronic nonspecific diseases of lungs (CNDL) and iodine deficiency diseases in children
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During the chronic bronchopulmonary pathology as CNDL on children on background of iodine deficiency diseases, accompanied with the chain of unfavorable immunological and metabolic processes which aggravate the clinical course, as well as make ill effects.

Under observation were 68 children with CNDL, average age patients 8,4±0,2. Remoteness of diseases 4,71±0,4 year.

At determination of the size of the thyroid gland on US have revealed: hyperplasia of thyroid gland I-degree on 52,3% children with CNDL, on 28,5% II-degrees, on 19% are normal size of the organ.

The Analysis have shown that the level of TTG in contents of serum in all patients were higher than checking group (R<0,001). The level of free triiodothyronine (T3) and thyroxin (T4) were lower on 77,9%, but on 22,1% examined were normal. Also contents of cortisol on patients with severe condition were high (144±6,56 mg/ml) as compared with patients in medium condition (69,6±8,3 mg/ml). For estimation of iodine insufficiency degree we defined the concentration of the iodine in single portion of the urine by photometrical method. On 25% examined, median concentration of the iodine in urine was found the moderate iodine insufficiency degree (20,49 MCG/l), on 55,8% light degree (50,99 MCG/g/l), but on 19% iodine concentration in urine was above 100 MCG/l. Thus, presence of iodine deficiency diseases in children with CNDL, has a definite significance during and outcome of chronic bronchopulmonary process, which requires additional and regular introduction of iodine-containing preparation and thyroid hormone.

P1165
Local cytokine production peculiarities in nasopharyngeal (adenoid) tissue of children with chronic lymph proliferative syndrome of different etiology
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Proinflammatory cytokines can regulate local inflammatory and immune responses.
during infections of respiratory tract. Production of IL-1α, IL-1β, IL-6 and IL-8 was investigated in children with chronic lymph proliferative syndrome. Biopsies of adenoid tissue were taken in 42 children 3-8 years old during adenectomy or adenotonsillectomy. Cytokines production was detected in cryostat sections using non-direct immunohistochemistry. Neutrophils were stained histochemically. Cytokine-producing cells (mainly macrophages) were counted in sections, results were expressed in units (0 no reaction – 3 high intensity) and percent of positive cases was calculated. I group of children (n=16) had Epstein-Barr virus (VEB), cytomegalovirus (CMV)-infection (past-infection, PCR+DNA VEB, CMV), II group (n=15) - streptococcal infection (ASL-0>200ME/ml), III group (n=11) - unclear etiology. We detected IL-1α, IL-6 in 25-75%, IL-1β in 25%, IL-8 in 75% patients from I group, but at 94-100% cases in II or III groups. Intensity of all cytokines production was the highest in II group (IL-1α 1.40±0.40; IL-1β 1.40±0.35; IL-6 1.53±0.28; IL-8 1.73±0.32 units) and decreased in group I (IL-1α 0.25±0.23, IL-1β 0.25±0.23, IL-6 0.50±0.27, IL-8 0.93±0.36); p<0.05 I vs II; I vs III (beside IL-8); IL vs III. The number of neutrophils infiltrated adenoid tissue showed local inflammation and did not differ significantly among three groups. We conclude that in children with VEB, CMV infection cytokine production is suppressed in comparison with groups with Streptococcal infection or unclear etiology.