viruses no significant differences in HRV versus controls were observed. These data indicate RSV related reduced sympathetic activity.

Conclusion RSV infection in infants is associated with autonomic dysfunction of central origin. This may be correlated with an increased risk for serious apnea or ALTE, for which prolonged cardio respiratory monitoring is indicated.

942 ACUTE RESPIRATORY TRACT INFECTIONS IN PRESCHOOL POPULATION OF GEORGIA

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Aim and methods: To assess the frequency of ARI in preschool children population, identification of risk factors and main principles of treatment. The cross sectional study was conducted using the special questionnaires for parents of 3–6 years children and in all regions of Georgia. At all 1448 parents and caregivers were interviewed.

Results 2.3% of children have 7–8 episodes of ARI per year, 19.9% have 3–5, 53.4% 1–2 episodes per year and in 24.2% ARI are very rare. The incidence of ARI is higher in urban population, then in rural area and in mountain regions ($p < 0.001$). The main symptoms for admission to health care facilities were cough (82, 8%) and fever (75, 9%). Study revealed the risk factors for ARI: male sex, living in urban area, attendance of day care centers, exposure to passive smoking, big number of family members significantly increase risk of ARI. There was no correlation between the type of feeding in infancy and frequency of ARI infection in 3–6 years old children. In 47% of ARI cases antibiotics were used from those in 32 # parents started antibiotics by self.

Conclusion Male sexes, urban regions, attendance of day care center, passive smoking are the significant risk factors for development of ARI in children aged 3–6 years. Primary health care providers still prescribe unnecessary and excessive antibiotics. The incidence of ARI may be reduced substantially through public health measures.

943 THE STUDY OF ANTIMICROBIAL RESISTANCE AMONG SHIGELLA FLEXNERI STRAINS ISOLATED OF CHILDREN IN TEHRAN, IRAN

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Background and Aims Shigellosis is one of the major causes of morbidity in children with diarrhea in Iran. The aim of this study was to investigate antimicrobial resistance of *S. flexneri* strains isolated from clinically diagnosed cases of gastroenteritis and acute diarrhea in Tehran, Iran.

Methods *Shigella* strains were isolated from stool samples of children patients who visited the several major hospitals in Tehran. *S. flexneri* was preliminarily identified by biochemical tests as well as by API20E. Antimicrobial resistance testing was performed according to the standard guidelines of the Clinical and Laboratory Standards Institute.

Results All strains were resistant to streptomycin. More than 97% of the strains were resistant to tetracycline, 89% to co-trimoxazole, 80% to amoxicillin, 33.5% to ampicillin, 14% to chloramphenicol, 8% to kanamycin, 5% to nalidixic acid, 1.5% to cefixime and 0.5% to amikacin and furazolidone. None of the tested isolate was resistant

to ceftriaxone, ceftizoxime, ceftazidime, gentamicin, ciprofloxacin, cephalothin, cefotaxime, cephalaxine and nitrofurantoin.

Conclusions This study indicates the increase in incidence of multiple drug resistance among the strains of *S. flexneri* isolated in Tehran, Iran.

944 PRECEDING HUMAN METAPNEUMOVIRUS INFECTION INCREASES ADHERENCE OF STREPTOCOCCUS PNEUMONIAE AND SEVERITY OF MURINE PNEUMOCOCCAL PNEUMONIA

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Co-infections with respiratory virus and *Streptococcus pneumoniae* have been frequently reported in epidemiologic studies. Here, we explore how inoculating A549 and Hep-2 cell monolayers with human metapneumovirus (hMPV) affected subsequent in vitro infections with pneumococcus serotypes 3 and 14. The different serotypes had variable adherence, but the A549 cells with a preceding hMPV infection had significantly enhanced bacterial adherence. Also, BALB/c mice infected with hMPV had increased adhesion of pneumococcus to the bronchial epithelium. The lungs of mice with a preceding hMPV inoculation had delayed bacterial clearance and exacerbated histopathology after they were infected with *Streptococcus pneumoniae*. Additionally, the mice with a preceding hMPV infection had inhibited recruitment of airway neutrophil and decreased expression of neutrophil chemoattractants. Our results suggest that

1. airways infected with hMPV, especially lower airway epithelium, allow increased adherence of *Streptococcus pneumoniae* and
2. hMPV-infected mice have impaired recruitment of airway neutrophils that may cause delayed bacterial clearance and exacerbated pulmonary inflammation.

945 CHANGES OF INTESTINAL SECRETORY IMMUNOGLOBULIN A IN CHILDREN WITH ROTAVIRUS INFECTION

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The Aim of this study was to evaluate the level of intestinal sIgA in children with rotavirus infection (RVI) depending on disease severity.

Methods Between November 2009 and February 2011, stool specimens from 85 children less than 4 years of age suffering from RVI were tested for intestinal sIgA by ELISA. 75.6% of patients were with moderate severity of disease and 23.5% - with severe course. 66 healthy children were studied as controls.

Results intestinal sIgA in patients on the 1st–2nd day of RVI was 22.6 ± 1.05 mg/l and significantly different ($p < 0.01$) from the level of healthy children 31.8 ± 1.35 mg/l. The following dependence from disease severity was detected: intestinal sIgA in severe case 16.7 ± 1.6 mg/l which was significantly less ($p < 0.001$) than in patients with moderate severity 24.36 ± 1.21 mg/l. Intestinal sIgA increased up to 32.74 ± 1.53 mg/l in patients with moderate severity on the 5th–6th day of disease and to 22.9 ± 1.85 mg/l in patients with severe case which were significantly different ($p < 0.05$).

Conclusions The level of intestinal sIgA on the 1st–2nd day of disease was less than the level of healthy children. Severe course of disease is usually present in case of low concentration of sIgA. The level of sIgA in patients with moderate severity of RVI increases up to the level of healthy children on the 5th–6th day of disease and it is significantly higher than the level of sIgA in patients with severe

case at the same time ($p < 0.05$). Thus, the low level of intestinal sIgA complicates the course of disease.

946 SOCIAL AND MEDICAL RISK INDICATORS IN ADHERENCE OF HIV/AIDS INFECTED CHILDREN BY VERTICAL TRANSMISSION

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50 children were assisted at Hospital Muniz from 8/1/2010 to 2/28/2011: 11 boys (2/12), 11 girls (5/12), 28 teenagers: 9 males (12/17), 19 females (12/18). A social and medical score to value the adherence vulnerability was applied with these categories: annual internments, increase of viral load, decrease of CD4, clinical pathologies, relation between severity of pathology and internment length, lack of taking and/or delivering a medication, poor care support, lack of assistance to Short-Scheduled Hospitalization Program (SSHP). The results are: Low Score (< 3): **24 patients**. Slight Score (3 to < 6): **7 patients**. Moderate Score (6 to < 12): **8 patients**. High Score (> 12 to < 24): **11 patients**. **Nobody** with **low score** presents **social risks**. **Social risks were presented in:** 5 slight score patients. 6 moderate score patients. 11 patients with high score. **Suffered poor care support:** 16 patients: 6 under 12 (27.3%) and 10 adolescents, 7 women (36.8%) and 3 males (33.4%). Lack of taking and/or delivering a medication: 20 patients, 4 children under 12 years (18.2%), 16 adolescents, 8 women (42.1%) and 4 men (44.4%) and lack of control to the **SSHP**, 15 patients: 4 children under 12 (18.2%) and 15 adolescents, 8 women (42.1%) and 3 males (33.3%). Social and Medical risk in adherence indicators (shown at 2010 IAS Congress) adding the data provided by other disciplines managed to predict clinical evolution, to modify guidelines approach, to generate therapeutic strategies for monitoring at different ages, to follow ARV therapies in vertical transmission HIV/AIDS affected children.

947 SPREADING AND TREATMENT OF ACUTE MIDDLE OTITIS IN CHILDREN

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Goal Development of optimal schemes against acute middle otitis in children through application of the mucoregulatory preparations in the complex antibiotic and basic therapy.

Materials and Methods Development of clinical course of acute middle otitis assessment criteria in children; Development of the optimal scheme against acute middle otitis according to disease severity in children; Treatment effectiveness evaluation for complicated acute middle otitis with mucoregulatory preparations in children; Evaluation of complex treatment effectiveness for complicated acute middle otitis in children. 936 patients from 3 months to 14 years were studied: 426 girls, 510 boys. For statistical processing SPSSv12 software was applied.

Obtained results Two groups of patients were studied: I: patients with complicated acute middle otitis (53–58.9%); II: patients with acute middle otitis without complications (40.1%); subjective criteria for eligibility: 1. disturbance, behavior changes (younger group), pain - 76%; hearing discomfort 8%; nasal signs 47%; fever - 28.2%. Otoscopic criteria: infiltration and hyperemia of tympanum 46.1%; concave or arched tympanum 29.3%; changes of light reflex 24.6% ($p < 0.001$). Before treatment average values of mentioned symptoms were equal in both groups ($p = 0.98$) in case of acute middle year inflammation without complications mucoregulatory preparations

(sinuforte) and sinupred were effective mono-therapeutic remedies. In case of complications mucoregulatory preparations are quite effective.

Conclusion Thus, effectiveness of monotherapy with the mucoregulatory preparations in case of acute middle otitis is similar to standard treatment and could be regarded as alternative remedy $p = 0.01$. As for treatment of complicated disease combined treatment significantly reduces treatment duration $p < 0.001$.

948 OCCULT LUMBAR DERMOID CYST REVEALED BY RECURRENT KLEBSIELLA MENINGITIS

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Introduction Lumbar dermoid cysts and other occult dysraphisms are sometimes difficult to diagnose. These anomalies are occasionally detected after a nervous central system infection.

Case Report Previously healthy 10 month-old child, admitted after a first febrile generalized seizure with nuchal rigidity and bulging fontanel. A very small blind lumbar dimple above the 5th lumbar vertebra was noticed. Cerebrospinal fluid (CSF) was consistent with bacterial meningitis and penicillin susceptible *Klebsiella* spp was identified. Brain CT-scan was normal and CSF was sterile after 4 days of ceftriaxone. She completed 21 days of therapy, with clinical improvement. One week after, she was readmitted with fever, lethargy and opisthotonus. *Klebsiella oxytoca* meningitis was diagnosed and treated for 3 weeks with ceftriaxone and gentamicin, according to antibiotic susceptibility test. Brain and spine magnetic resonance imaging showed a L4-L5 lumbo-sacral intrarachidian dermoid cyst with a fistulous path to skin surface. Surgical closure of fistula was performed on day 23 of therapy. This child is currently under antibiotic chemoprophylaxis with amoxicillin/clavulanate, awaiting removal of dermoid cyst under optimal sterile conditions. Neurological exam and motor development have been normal.

Conclusions A strong clinical suspicion is necessary in order to diagnose occult dysraphism and spinal midline cysts, before complications occur. A careful examination of the midline is warranted in all infants, paying special attention to skin pits outside coccygeal area, even if apparently blind. This diagnosis should also be considered in cases of recurrent or unusual bacterial associated central nervous system infections.

949 MANAGEMENT OF PERI-ORBITAL/ORBITAL CELLULITIS IN CHILDREN ACROSS TWO DISTRICT GENERAL HOSPITALS

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Aim

1. To find out if there was uniformity in choice of antibiotics.
2. Are blood cultures, swabs and other blood tests helpful in management.
3. Look at involvement of other specialities in terms of follow-up and management.

Methodology Retrospective analysis of case notes with a diagnosis of preseptal/orbital cellulitis across 2 DGH. 15 such cases were recruited.

Results There was no uniformity in the antibiotics used. (5 different combinations were used).

Blood cultures were negative in 13 cases.

6 out of 15 had CRP < 15 .

Eye swab was positive in 3 cases.

Allied specialities were involved in 9 cases.

Only 1 out of the total 15 cases developed an abscess and incidentally did not have anti-staphylococcal cover.