

## Infectious Diseases & Vaccination Abstracts

### Searching the *H. pylori*; serology& PCR in children with adenoid hypertrophy and rhino sinusitis: a cross sectional study, Tehran, Iran

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**Background:** The adenoid tissue may act as a reservoir for bacteria. Goal of study was to evaluate the role of *H. pylori* infection (PCR and serology) in children with adenoid hypertrophy and rhino sinusitis.

**Methods:** A cross-sectional study had done upon 53 children (Mean age  $8 \pm 1.9$  years) with adenoid surgery in ENT and pediatric department of Rasul Akram Hospital (2008-2010). Of 53 cases with adenoid surgery, 40 cases had rhino sinusitis (in sinus CT scan). The resected adenoid tissues ( $n=40$ ) centrifuged and homogenized and its DNAs extracted and searched for *H. pylori*- DNAs by qualitative PCR. Serum *H. pylori* antibodies (IgG & IgA ELISA) calculated quantitatively. Chi square values ( $p<0.05$ ) calculated for all categorical variables. The agreement between serologic test and PCR was assessed by the calculation of kappa statistic.

**Findings:** Positive PCR for *H. pylori* detected in 15% of cases regardless of sex and age of cases. Positive IgA had found in 17.5% (7/40) and IgG in 20% (8/40) respectively. All cases with positive *H. pylori*- IgG were females; ( $p=0.003$ ) and meaningful differences in mean age of cases observed for positive IgA ( $p=0.001$ ) and IgG ( $p=0.01$ ). Poor agreement observed between positive PCR and serum IgG & IgA.

**Conclusion:** Positive PCR in adenoid tissue (15%) was very close to positive serum IgA (15%) but without any agreement for each case. The *H. pylori* infection may have a relative role at least in 15% of children with adenoid surgery. Chronic sinusitis and ear infection might be added to infected adenoid tissue as a reservoir for bacteria. The search by specific culture may elucidate better the role of *H. pylori* infections in both gastric and adenoid tissues. The decision for use of antibiotics to eradicate the *H. pylori* infection in recurrent or chronic adenotonsillar infections (with rhinosinusitis) before adenoid surgery needs Randomized Control Trial (RCT) studies. Drug of choice for eradication of *H. pylori* dependent to antibiotic sensitivity test in each country.

**Keywords:** Adenoid Tissue, Adenoid Surgery, *H. Pylori*, IgA, IgG

### Comparison of serum vitamin A, D & zinc levels between children with urinary tract infection and control group in two University Hospitals

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**Background:** Urinary tract infection (UTI) is one of the most common infections in infants and children, especially in their first decade of life. These patients are more

susceptible to renal scars and other possible complications like growth retardation, arterial hypertension, proteinuria, isostenuria, and finally chronic renal failure. Trace elements like vitamins and minerals are essential for efficient metabolism and proper function of various body systems namely immune system. In this trial we compared the relation between serum levels of zinc, vitamins A and D in children inflicted with UTI and control group.

**Methods:** This was a cross-sectional study on 25 patients with UTI admitted to pediatric wards of Rasul Akram Hospital and Bahrami Hospital. They were compared to 40 other patients admitted in surgical wards for elective surgery. Serum levels of zinc, vitamins A and D were measured in both groups.

**Findings:** Seventy two percent of the patients were male and 28% were females. The average age was 2.17. Despite the lower levels of vitamins A and D in cases than in controls, the difference was not significant. However, serum levels of zinc were significantly lower in cases than in controls ( $P<0.05$ ).

**Conclusion:** Vitamins A and D may play some role in patients' vulnerability to UTI, but this supposition needs more research on larger samples, considering differences among patients of various age groups and their nutritional status. According to the study, lower levels of zinc were associated with susceptibility to UTI; thence, its administration might be helpful.

**Keywords:** Urinary Tract Infection, Vitamin A, Vitamin D, Zinc (Zn)

### Comparison of serum zinc, vitamin A and D levels between children with respiratory tract infection and healthy individuals

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**Background:** Different factors influence the severity of respiratory infection such as causative pathogen and the host immune response. Vitamins and micronutrients play an important part in supporting immune system, and their homeostasis has a crucial importance in response to infections. Nutritional deprivation both for micronutrients and vitamins especially Zinc and vitamins A and D are particularly common in children of Middle East and Asia. This problem arises from their poor and inadequate diet, besides the loss of nutrients in the course of recurrent infections.

**Methods:** This was a cross-sectional trial on 25 patients, admitted to pediatric wards of Rasul Akram Hospital and Bahrami Hospital due to acute respiratory tract infection, who were compared to 40 other patients admitted to surgical ward for elective surgery. 72% of the patients were males and 28% were females. The average age was 2.17. Serum levels of Zinc, vitamins A and D were measured in both groups using atomic methods, ELISA and spectrophotometry, respectively.

**Findings:** Despite the lower levels of vitamins A and D in cases than in controls, the difference was not significant. However, serum levels of Zinc were significantly lower in cases than in controls ( $p=0.002$ ).

**Conclusion:** According to our trial, it seems like supplementary zinc and vitamin A might reduce patients' vulnerability to respiratory tract infection. There was no such indication with regards to vitamin D supplementation, which could be due to the relatively low levels of this vitamin in the whole population.

**Keywords:** Vitamin A, Vitamin D, Zinc, Respiratory Tract Infection

### Toxic shock syndrome following Influenza like Illness (a case report)

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**Background:** Toxic shock syndrome in children following influenza is extremely rare. However, it can be seen in secondary staphylococcal infections associated with influenza. If the disease is not diagnosed quickly, it can cause significant morbidity and mortality. For its diagnosis, clinical and laboratory criteria are used.

**Case Presentation:** Our patient was a 3.5-year-old male. He had a high fever, weakness, toxicity, low blood pressure and erythematous skin rash due to influenza like illness, associated with gastrointestinal symptoms, elevated liver enzymes, low platelet count and mucosal hyperemia. Immediately he was treated by intravenous fluid therapy, clindamycin, vancomycin and intravenous immunoglobulin (IVIG). After the treatment, he recovered and was discharged in good condition, but with mild scaling on the soles of the feet and toes.

**Conclusion:** Most reported cases of Toxic Shock Syndrome secondary to influenza occurred following the Staphylococcus aureus respiratory tract infections and were usually associated with persistent fever and worsening of illness. TSS also can occur without any identifiable focus of infection. If the flu worsens, a secondary infection as a complication of the disease should be considered. Although most cases of secondary infections are due to pneumococcus, in more severe cases staphylococcus has an important role. As a result, influenza vaccination particularly in young children can strongly reduce most of the secondary bacterial infections and is highly recommended.

**Keywords:** Toxic Shock Syndrome, Influenza, Secondary Infection

### Investigation on streptococcus superantigen in polyp tissue of patients with nasal polyposis and chronic rhinosinusitis in comparison to normal population

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**Background:** Nasal polyp (NP) is a benign mucosal mass located in both sinuses and nares which is mostly seen in association with cystic fibrosis, asthma or oversensitivity to aspirin. The prominent histological feature of NP is inflammatory cell infiltration with eosinophil predominance. Superantigens role in causing NP complications is already proven. Superantigens, which are mostly originated from Streptococci and Staphylococci, activate T cells strongly and increase the process of production and release of cytokines, and secretion of IgE

from B cells, which in turn directly affects proinflammatory cells such as eosinophils, both in their tissues infiltration and functions.

**Methods:** The samples are collected from patients referring to ENT clinic in Rasoul Akram training Hospital in Tehran after thorough clinical and paraclinical examinations. For control group the samples collected from patients undergoing rhinoplasty. All the samples kept frozen and sent to immunology lab. The DNA of the excised tissues extracted and amplified by using the superantigens specific primers and PCR product detected by gel electrophoresis. The data analyzed by using mean and SD and  $\chi^2$  analytical tools.

**Findings:** 15 healthy individuals, 25 patients with rhinosinusitis and 24 cases with polyposis entered this trial. Group A Streptococcus toxin detection was significantly more frequent in those with nasal polyp and rhinosinusitis compared to healthy individuals ( $P=0.001$  and  $0.005$ , respectively); but the results were almost the same for those with nasal polyp and rhinosinusitis.

**Conclusion:** Streptococci may play an important role in induction or clinical exacerbation of polyposis and group A Streptococcus pyogenes exotoxin (SPEs) with superantigenic effects may have a crucial role in etiology and pathogenesis of polyps with or without rhinosinusitis. It is postulated that, T cells polyclonal activation by SPEs may cause recruitment of inflammatory cells in nasal mucosa including IgE producing B cells leading to allergic and inflammatory reactions in NP.

**Keywords:** Superantigen, Streptococcus Pyogenes, Nasal Polyp, Chronic Rhinosinusitis

### Seroprevalence of anti-Hepatitis A antibody among 1 - 15 year old children in Kashan-Iran

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**Background:** Worldwide, hepatitis A is a common infection during childhood especially in developing countries. It can cause severe complications in adults and patients with underlying diseases. This study was performed to determine the seroprevalence of hepatitis A in 1-15 year old children of Kashan.

**Methods:** This cross-sectional study was performed on 666 one to fifteen year-old children from health-care centers in Kashan city during 2012. Total antibodies against hepatitis A were measured in sera by enzyme-linked immunosorbent assay (ELISA).

**Findings:** Totally, 3.9% of children were seropositive. Mean number of family members was  $3.92 \pm 0.89$ . There was no difference in seroprevalence of hepatitis A according to sex, family size, mean age and age groups.

**Conclusion:** In this city, a great proportion of children are susceptible to hepatitis A and its complications at an older age. This decrease in seropositivity may be caused by elevated hygiene level. According to our results hepatitis A vaccination is recommended at early childhood such as that of other regions where low prevalence of hepatitis A infection is found.

**Keywords:** Epidemiology, Hepatitis A, Antibody

### Frequency of positive blood cultures in pediatric sepsis

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**Background:** This study was performed to determine the frequency of positive blood cultures in pediatric sepsis cases in Buali hospital from 1389 to 1392.

**Methods:** In this descriptive-analytic cross-sectional survey, 204 children with sepsis attending to Buali hospital from 1389 to 1392 were evaluated.

**Findings:** The results demonstrated that blood culture was positive in 12 cases (5.9%) that the related germ was *Pseudomonas* in 42%, *Enterobacter* in 50%, and *E coli* in 8%.

**Conclusions:** According to the findings, it may be concluded that empiric therapy, usually used in sepsis work up for the children, is a logical step because if it is performed, only 6 out of 1 hundred cases would be positive.

**Keywords:** sepsis, neonate, blood culture

### Assessment of clinical and Para clinical tests to diagnose the meningitis among children with complex febrile convulsion

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**Background:** Febrile Convulsion(FC) is a frequent cause of hospitalization. Meningitis is one of the most important causes of febrile convulsion that is frequent in complex febrile convulsion, which is diagnosed with lumbar puncture (LP). The necessity of LP is still debating. The purpose of the current study was to compare the LP in management of meningitis among children with complex febrile convulsion.

**Methods:** In this cross-sectional study, 515 patients were studied from March 2009 to March 2011. They were admitted at the Qazvin children hospital with febrile convulsion. 77 patients has complex febrile convulsion. Mean of ages of children was 21.79.±13.46. In the study, 51.9% of the children were girls and 48.1% were boys. Age, temperature, family and personal history, duration and type of seizure, cause of fever, WBC, ESR, CRP and the results of LP for each cause of fever were collected. We analyzed their serum profiles and the special sings by Mann-Whitney U test.

**Findings:** Seizure related to meningitis (viral or bacterial) was seen in 3 cases. We have separated two groups: G1; children presented with meningitis and G2; children with complex febrile convulsion. The comparison between two groups G1 and G2 showed following results: age (P=0.08), temperature (P=0.8), recurrence of seizure in the same day (P=0.5), duration of seizure (P=0.8), history of family convulsion (P=0.04), convulsion type (P=0.009), hospitalization dates (P=0.04), ESR (P=0.9), CRP (P=0.5) and WBC (P<0.001). Mean value of WBC in G1 was 22600±15954 and in G2 was 10886± 5142. None of them had neck stiffness.

**Conclusion:** In children with complex febrile seizure, there were no significant differences in some para-clinical status or some signs between two groups that could be used to diagnose meningitis except the convulsion type and WBC.

Therefore, LP is recommended in a patient with focal or atonic seizure especially with leukocytosis.

**Keywords:** Febrile Convulsion, Lumbar Puncture, Meningitis

### Seroprevalence and risk factors of Varicella-Zoster among children of Kashan, center of Iran

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**Background:** Varicella, the primary infection of varicella-zoster virus(VZV), is a highly contagious and vaccine preventable infectious disease. It can cause severe complications in neonates and adults. Herpes zoster results from VZV reactivation later in life. This study was performed to determine the seroprevalence of VZV by evaluating the specific IgG antibody in 1-15 year-old children in Kashan.

**Methods:** This cross-sectional study was carried out on 558, one through fifteen year-old children among health-care centers in Kashan city during 2011. IgG antibodies against VZV were measured in sera by enzyme-linked immunosorbent assay (ELISA).

**Findings:** In total, 27.6% of children were seropositive. The seroprevalence of varicella zoster antibodies increased by age(12.7% in 1-5 year-old, 34.4% in 6-10 year-old and 39.6% in 11-15 year-old children). There was no difference in seroprevalence of VZV according to sex and habitation zone. By using multivariate analysis, independent factors associated with seropositivity were the family size being greater than 4(OR = 2.01, 95% CI 1.35-3.29, P< 0.001) and history of varicella (OR = 39.31, 95% CI 22.79-67.79, P< 0.001). The Negative predictive value of varicella history was 91.1% and slightly decreased by age.

**Conclusion:** In this region, a significant proportion of children are susceptible to VZV, severe varicella and it's complications at older ages. It is recommended that varicella vaccine to be added to routine childhood vaccination programs and also to be injected to susceptible adolescents. Negative history of varicella would be a predictor of varicella antibody status in children and young adults.

**Keywords:** Varicella Zoster, IgG, seroprevalence

### Seroprotection after hepatitis B vaccination in children aged 1 to 15 years in central province of Iran, Semnan

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**Background:** There are controversies over the long-term persistence of post-vaccination immunity to hepatitis B and the need for booster doses of the vaccine. The aim of this study was to verify levels of antibody against hepatitis B virus surface antigen (anti-HBs) in children aged 1 to 15 years who received vaccination against hepatitis B in the central province of Iran, Semnan.

**Methods:** We performed a seroepidemiological survey (n = 210) of anti-HBs in 2011 in the central province of Iran, Semnan using enzyme-linked immunosorbent assay

(ELISA). The levels of anti-HBs<10 mIU/mL were considered to be negative; samples showing an anti-HBs titer≥10 mIU/mL was considered protective and highly protective.

**Findings:** Protective antibody levels were detected in 88% of the children less than 5 years after vaccination, decreased to 78% between 5 to 10 years after vaccination, and further declined to 74% in 10 years after vaccination.

**Conclusion:** The vaccination program has been proven effective in Semnan and immunological protection against HBV infection was found in the majority of children even more than 10 years after being vaccinated.

**Keywords:** Hepatitis B Antibody, Vaccination, Children

### Pattern of HRSV epidemics in Iran: genetic diversity and molecular epidemiology of the G protein over seven years

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**Background:** Human respiratory syncytial virus is the most important viral agent of acute lower respiratory tract disease in infants and young children worldwide. In order to have information on the molecular epidemiology and genetic diversity of HRSV in Iran, we studied the genetic variability of both group A and B HRSV strains during seven consecutive years by sequencing the hypervariable C-terminal domain of G protein.

**Methods:** A total of 485 children < 2 years of age who were negative for influenza viruses, were screened for the presence of HRSV in this research using nested RT-PCR during 2007-2013.

**Findings:** Of the 485 throat swabs collected from children with acute respiratory symptoms, 94 (19.38%) were positive for HRSV. Phylogenetic analysis revealed that all HRSV group A viruses belonged to three genotypes: GA1(32), GA2(52), GA5(1) and the group B viruses were in BA(9) genotype.

**Conclusion:** This research was the first report of the long term study of genetic diversity of HRSV G gene in Iran. Both A and B HRSV groups co-circulated in the children with A predominance.

**Keywords:** HRSV, genetic diversity, molecular epidemiology, Iran

### Diagnostic value of clinical diagnosis of streptococcal angina compared with throat culture and determine the antibiotic susceptibility

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**Background:** The incidence of infections in the throat is highest in 5 to 15 year old children of primary school children. Streptococci(GAS) A is the most common cause of bacterial pharyngitis in children, but none of the microorganisms that can cause acute pharyngitis symptoms are specific. The aim of this study was to evaluate the diagnostic value of clinical signs in the diagnosis of streptococcal angina compared with throat culture to determine the antibiotic susceptibility in children 1-13 years old.

**Methods:** In this clinical trial, in 100 children with high fever and pharyngeal erythema who were referred to the

pediatric clinic, clinical symptoms were recorded in a questionnaire; then the results obtained from the throat culture was added to the questionnaire. Out of 100 patients, 80(80%) had streptococcus, and in 20 patients(20%) nonstreptococci were detected. 19 patients had positive cultures and other had negative culture, the data ultimately were analyzed using the Chi-square and Fisher Exact's software environment using SPSS ver 19 software.

**Findings:** Of the 100 patients, 52(52%) were males and 48(48%) were females. Their mean age was 4/89± 3/08 years. The mean duration of symptoms was 2/26± 1/56. Body temperature (fever) was 39/33± 0/7. Significant relationship was between culture and throat symptoms(P=0.01), temperature (P=0.04), vomiting (P=0.049), cough (P=0.002), runny noses (P=0.005), and cervical lymphadenopathy (P<0.001). For streptococcal pharyngitis, the clinical findings was diagnostic with calculated sensitivity of 100%, specificity 24/7%, positive predictive value of 23/8%, negative predictive value 100%, and 39% concordance index. Most resistance of the antibiotics was observed in erythromycin, then amoxicillin, azithromycin, cephalothin and penicillin.

**Conclusion:** It seems that a diagnosis of streptococcal pharyngitis based solely on clinical symptoms is not reliable and should be associated with a laboratory method like throat culture. This study showed that resistance to antibiotics such as penicillin are growing. On the other hand, cephalothin is appropriate antibiotic for the treatment of streptococcal pharyngitis.

**Keywords:** Streptococcal Angina, Throat Culture, Children, Penicillin

### Pediculus capitis in Kashan

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**Background:** Head lice are blood-sucking insects and external parasites of humans which have a cosmopolitan distribution. Pediculosis is observed in all age groups. The disease can cause health problems as well as social and psychological pressures. This study was performed to assess the epidemiologic features of the disease in Kashan city in 2007-2011.

**Methods:** A descriptive epidemiological study was carried out on 660 cases infected with head lice. Data were obtained from the questionnaires of the health centers in Kashan. Then data classification and statistical analysis were performed.

**Findings:** 90.5% of cases were females and 9.5% males; 74.7% of them were students and 25.3% were non-pupils. 13.1% had family size more than 4 and 86.9% had maximum 4. 88.6% were Iranians and 11.4% were Afghans. 41.5% had contact with an infected person. The highest percentage of cases (66.5%) were in school age. Father education level and contamination rate (p< 0.001), as well as pollution seasons (P<0.001) were significantly associated.

**Conclusion:** This study is the third epidemiological one about pediculosis in Kashan. Every year many cases of lice are reported from the health centers. This condition suggests that the measures taken were not sufficient. Given the high rate of infection in the schools, health educators should pursue the subject with greater sensitivity.

**Keywords:** Pediculus, Epidemiology, Kashan



**An epidemiologic study in visceral leishmaniasis****Zamani A***Vali asr Hospital, Tehran University of Medical Sciences*

**Background:** The leishmania is an obligatory intracellular parasite that may occur sporadically, endemic or sometimes in epithermic focuses, in the whole world, and it remained a public health problem of the developing countries. In Iran, visceral leishmaniasis caused by leishmania infantum in mediterranean basin, which are epidemiological aspects of visceral leishmaniasis (Kala-Azar), is of great importance. Many regions in Iran are endemic for Kala-Azar especially in villages and every year affect some people. It will progress rapidly in young children with malnutrition. Because of leukopenia, severe decrease of polymorphonuclear (PMN) and T cell suppression, patients are susceptible to opportunistic infections and if there is a delay in diagnosis and treatment, the mortality will be increased.

**Methods:** A retroactive cross-sectional study done to investigate case series. A total of 43 patients, 9 months to 14 years old with Kala-Azar, admitted during 8 year period (1996-2004) in infectious section of pediatrics department of Imam Khomeini Hospital were enrolled in the study.

**Findings:** 60% were rural and under 4 years old that 28% were girls. Signs and symptoms were as following: fever 79%, pallor and tachycardia and weakness 30%, abdominal distention 49%, weight lost 9.3%, hepatosplenomegaly 100% and all have BCG scar and their PPD test were negative. 50% had pancytopenia, 80% had microcytic hypochromic anemia, and ESR were higher than 30 in 90%. Blood culture was positive in 11.5%, 7% had bacterial pneumonia and 93% had a positive IFA titer of 1/1280. Leishman body was positive in 79% of the first Bone marrow examinations. All these diagnosed patients treated with glaucantim for 3 weeks duration. In 7% recurrence was happened.

**Conclusion:** Any child with hepatosplenomegaly has to work up for Kala-Azar. Constantly epidemiologic assessment in endemic region can help diagnosis. Patient should start treatment with glucantim sooner. Using prevention methods (saunplies and affected dogs) can prohibit prevalence and incidence in villages.

**Keywords:** Visceral Leishmaniasis, Hepatosplenomegaly, Glucantim, Children

**Nosocomial rotavirus gastroenteritis in pediatric patients: a cross-sectional study using molecular analysis****Rahbarimanesh AA, Modarress Gilani S, Habibi M, Modarress Gilani S***Bahrami Children Hospital, Tehran University of Medical Sciences*

**Background:** Rotavirus is one of the most important etiological agents of nosocomial infections in childhood. This cross-sectional study was designed to determine the incidence and the main risk factors of rotavirus nosocomial infection in children admitted to the Bahrami Children Hospital, Tehran, Iran. Analyzing the genetic diversity of rotavirus was performed. Identifying the most common genotypes of rotavirus contributes to establishing a suitable vaccination program.

**Methods:** A total of 105 stool samples were obtained on the first day of admission of children admitted to different wards of Bahrami children Hospital, Tehran, Iran during December 2009 to December 2010. An additional sample was collected from rotavirus-negative children within 48 hours of their admission. Children who were initially rotavirus-negative and became positive 2 days or more after admission were considered as certain nosocomial cases. Rotavirus infection was detected in the feces samples using RNA-PAGE method and multiplex RT-PCR in order to specify the rotavirus genotypes. Both VP4 and VP7 primers were utilized in order to identify the rotavirus genotypes.

**Findings:** During the study period, 105 children were enrolled. The incidence of rotavirus nosocomial infection was 20% with high rates in children aged 12-24 months. Nausea, vomiting and high grade fever were the prominent symptoms in the infected patients. Existence of an underlying disease including congenital heart disease and intractable seizures predisposed the children to infection. The most commonly found genotypes in nosocomial infection was G1P[8] and G1P[4].

**Conclusion:** Nosocomial rotavirus infections cause significant morbidity in hospitalized children especially young infants. According to the most common genotypes found in patients with nosocomial infection in this study, appropriate vaccination programs should be considered in developing countries.

**Keywords:** Infancy, Diarrhea, Stool Sample, Prolonged Hospitalization

**Evaluation of lipid profile changes in children with infectious mononucleosis****Sayyahfar A, Sheikh Olya Lavasani A, Nateghian A**  
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**Background:** Some infections in acute phase can lead to atherogenic changes in serum lipid profile of patients. The present study examined the changes in lipid profiles in children with infectious mononucleosis.

**Methods:** In this prospective cross-sectional study, 36 children with acute infectious mononucleosis aged between 1 and 10 years were evaluated for serum levels of total cholesterol, HDL, LDL, and triglycerides at acute phase and 2 months after recovery respectively.

**Findings:** 25 patients (69.4%) were males and the mean age of patients was  $4.1 \pm 2.0$  years. Mean serum total cholesterol level of the patients in the acute phase of illness was  $149.5 \pm 35.3$  mg/dl. 2 months after recovery, the mean serum total cholesterol reached to  $145.6 \pm 30.5$  mg/dl, which was not statistically different from the acute phase of the disease. However, serum levels of HDL cholesterol 2 months after recovery had increased significantly from the acute phase of the disease ( $37.9 \pm 9.2$  mg/dl vs.  $28.4 \pm 10.6$  mg/dl, respectively;  $P < 0.0001$ ). The mean values of serum LDL cholesterol in the children with infectious mononucleosis was significantly reduced 2 months after recovery ( $81.4 \pm 19.4$  mg/dl vs.  $92.6 \pm 28.8$  mg/dl, respectively;  $P < 0.009$ ). Furthermore, serum triglyceride level after recovery from illness ( $108.6 \pm 36.9$  mg/dl) was significantly reduced in compare with the acute phase ( $163.7 \pm 114.3$  mg/dl) ( $P < 0.004$ ).

**Conclusion:** Children with infectious mononucleosis suffer from acute disease atherogenic changes in lipid profiles in acute phase of the disease which will significantly improve 2 months after recovery. Thus, the lipid profiles can be

used for patient's follow up in order to assess their infection improvement.

**Keywords:** Epstein Barr Virus, Lipid, Pediatrics

### Ceftriaxon resistant in children with UTI

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**Background:** Urinary tract infection(UTI) is one of the most common bacterial diseases in children and antibiotic treatment is usually started empirically(cefexime, trimethoprim-sulfamethoxazole or ceftriaxone) before urine culture results are available. Unfortunately, antibiotic resistance has become an increasingly critical problem in many countries like Iran. The high resistance rate seems to be result of widespread antibiotic usage of families even in the absence of prescription.

**Methods:** We evaluated 115 urine culture of patients 2 months to 12 years old with fever and suspected UTI(outpatient or hospitalized). Urine culture was obtained with catheter or suprapubic in patients under two years old and midstream in older than 2 years. Disk diffusion method was used for antibiotic susceptibility. All *E. coli* isolates were microbiologically identified and minimum inhibitory concentrations(MIC) of selected antimicrobial agents of different classes against *E. coli* isolates were determined.

**Findings:** In this study most frequency isolated pathogen was *E.coli* 100/115(87%). Twenty three patients out of 100(23%) were admitted with primary diagnosis of pyelonephritis and 77 patients(77%) were outpatients. The total frequency of resistance rates against ceftriaxone and cefexim was 45% and 46% respectively and resistance to trimethoprim-sulfamethoxazole was seen in 88%.

**Conclusion:** Cephalosporins are most common and favorite antimicrobial agents for the empirical treatment of UTI, but results of this study showed alarmingly high proportions of resistance to them. There is much evidence suggesting a relationship between prescribing habits and antibiotic resistance.

**Keywords:** *E. coli*, urinary tract infection, antimicrobial susceptibility, ceftriaxon

### Rabies in a 4 year girl, a case report

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**Background:** Rabies is an acute progressive viral infection of the central nervous system(CNS) transmitted from animals to people. The encephalitis caused is characterized by hydrophobia and almost always is fatal. The incubation period of rabies in some cases may be so long, but most cases occur within 20 to 90 days after exposure. Some signs of this disease are fever, agitation, hypersalivation, hyperactivity, fluctuating consciousness, bizarre behavior, larango spasm, meningismus and hydrophobia.

**Case presentation:** A 4 year old girl admitted to PICU in Khorramabad hospital of Lorestan because of fever, dysphasia, malaise, poor feeding, hydrophobia and irritability from a few days ago. She had the history of fox bite 4 months ago. There was no abnormal finding in her brain CT scan. Laboratory study revealed WBC:8700

(NEUT:75%, LYMPH:25%), ESR:3, CRP:NEG, Hb:10.9, PLT:478, PTT:24.5, BS:88, and PT:13. She was treated by antibiotic and ribavirin for encephalitis. Nuchal skin biopsy were obtained from her neck and was sent to Pastor Institute for final diagnosis. The diagnosis of rabies was confirmed by that. 7 days after the admission, she experienced respiratory problems. Then she was intubated. Finally she expired due to respiratory arrest at 14th days after the admission.

**Conclusion:** All patients with exposure to suspected rabies must start rabies post exposure prophylaxis. Exposure includes a bite breaking the skin, but also saliva in contact with mucous membranes or a previous skin lesion where the skin barrier has been disrupted. When the patient presents with a bite, wound cleansing, debridement, and careful exploration for foreign body(eg, broken tooth) are essential; this should take at least 10 minutes. Generally, leave wounds to heal by secondary intention to permit drainage of wound fluids and prevent infection.

**Keywords:** Rabies, encephalitis, Khorramabad

### The evaluation of resistance of the antibiotics in urinary tract infection in children of shohaday kargar hospital in 2011 and 2012

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**Background:** Urinary tract infection is the most common children's bacterial infection that can lead to serious complications, such as chronic renal failure and hypertension. Appropriate or inappropriate use of antibiotics can result in resistance of bacteria. Therefore, in every area germs causing infections and the type of effective antibiotics should be frequently determined in order to be used by doctors before the result of antibiogram.

**Methods:** This was a descriptive study. In this study with the reference to the filed cases of 140 hospitalized children with urinary tract infection in Shohaday Kargar Hospital and examining the antibiogram related to them, the susceptibility and the resistance of germs causing infection to some antibiotics were surveyed.

**Findings:** The study included 140 children with urinary tract infection referred to Shohaday Kargar Hospital with average age between 3/2-5/91 with the range of 1-13. The study included 50 boys(5/37%) and 90 girls(3/64%). Children were divided into two age groups: 1-5 and 6-13. *E. coli* was the most common germ in both boys and girls, but it was more common in boys and it was more frequent in the age group of 6-13. *Klebsiella* and other germs were more frequent in age group of 1-5. The most sensitivity to *E. coli* was to nitrofurantoin, ciprofloxacin, and ceftriaxone and the most resistance was to ofloxacin and cotrimoxazole in age group of 1-5. In other antibiotics, there was no significant relationship between the age and the type of antibiotic. In *Klebsiella*, the most sensitivity was to ciprofloxacin, ofloxacin and ceftriaxone; the most resistance was to Nalidixic acid and the most sensitivity to ceftriaxone belonged to the age group of 1-5. Also, cephalothin(20%) could be an appropriate antibiotic for urinary tract infection with *Klebsiella*.

**Conclusion:** According to this study, selecting the antibiotic based on the preferred germ between boys and girls is the same. The most common germ in UTI according to previous studies is firstly *E. coli* and then *Klebsiella* and

Ecoli is more common in boys. Girls between 6-13 are more exposed to the danger of UTI. Empirically nitrofurantoin, ciprofloxacin and ceftriaxone are still the most effective drugs for treating of the UTI and the resistance against cotrimoxazole is on increase, especially in children between 1-5; the selection of antibiotic regarding to the preferred germ is the same in both boys and girls.

**Keywords:** Urinary Tract Infections, Antibiotics, Antibigram, E Coli

#### Immunization coverage among 24-47 month age children in the suburbs of large Iranian cities

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**Background:** Immunization in Iran is one of the oldest public health interventions and begins from 1829 against smallpox. Based on Ministry of health and medical Education in Iran, immunization coverage is higher than 95% in all provinces. However, there is huge number of migratory Iranian people and illegally refugees who live in marginal areas of large cities that might be induce immunization gap in these areas. This study designed to produce more detail information on vaccination status in high risk groups of suburb of large cities in Iran.

**Methods:** This was a cross-sectional study on children 24-47 month old whom lived in the suburb of 5 big cities of Iran. We used proportional cluster sampling method for each city. The survey counts immunizations based on immunization card plus history. The time of study was June 2013. All gathered data are analyzed by using SPSS software (version 16).

**Findings:** Overall, 4502 children participated in this survey that was in 24-47 month age. 2113(49.2%) of children were females. In view of nationality, 88.1% of studied children were Iranian and 11.9% were Afghan or other nationalities. Only 0.6% did not have vaccination card, 80.9% showed vaccination card to interviewers and it was not seen in 18.5% of participants, while they had it. Our results showed that 96.8%, 3.2% and 0.1% of children were fully immunized, partially immunized and not immunized, respectively. There was no difference between male and female. 98% of children have been vaccinated in the governmental health care centers.

**Conclusion:** Immunization program in the country is implemented very well with high coverage in high risk groups in suburb areas regardless to the nationality of the kids.

**Keywords:** Immunization, Coverage, Iran

#### Associations between antibodies against the endothelial cell and T. Gondii; cytomegalovirus in serum of children with cochlear implant surgery

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**Background:** Cytomegalovirus (CMV) and T. gondii are two common causes of SNHL (Sensorineural hearing loss) in Iranian children. Immune-mediated vascular damage induced by endothelial cell antibodies may have a prominent role in sensorineural hearing loss. Objectives:

To determine the serum CMV and T. gondii antibodies against endothelial cell in children with profound SNHL and cochlear implant surgery.

**Methods:** A cross sectional study was performed on 76 cases with severe SNHL (mean age  $32 \pm 30.6$  months) at cochlear implant ward of Rasoul hospital, Tehran Iran (2008-2010). The titers of antibodies against endothelial cell (Indirect immunofluorescence assay); were determined in sera of 66 cases. Specific antibodies (IgG & IgM) against T. gondii, CMV (Enzyme linked immunosorbent assay) determined in Idiopathic SNHL cases.

**Findings:** Idiopathic type of SNHL was diagnosed in 28.8% (19.66) of younger cases (mean age=20 months;  $P=0.05$ ). Positive AECAs was detected in 14.4% (11.76) of cases (with mean age 50 vs. 32 months in cases with negative test;  $P=0.047$ ). Positive AECAs had not significant differences between Idiopathic and Non idiopathic type of SNHL [10.5% vs. 9%;  $PV=0.1$ ]. Positive AECAs were more frequent in cases with known postnatal infections (e.g. mumps, meningitis, chicken pox, etc.) in comparison with non-infection cases ( $P=0.05$ ). Positive T. gondii -IgM (recent infection) was found in 8/19 (%42); 1 case also had positive T. gondii-IgG. Positive CMV-IgM and IgG were determined in 10.19 (%52); 17.19 (%89) respectively. A meaningful correlation was observed between positive AECAs and those infections (Toxo, CMV) in Idiopathic (and unclassified) SNHL cases.

**Conclusion:** Idiopathic type of SNHL with a poor outcome is common in children with cochlear implant surgery. Positive AECAs cases had not differences between 2 type of SNHL but were more frequent in older cases with known postnatal infections (meningitis, mumps, chicken pox etc.). Immunosuppressive therapy is only recommended in older cases (>2 year old) with Idiopathic SNHL and concomitant positive AECAs.

**Keywords:** CMV, T. Gondii, Sensorineural Hearing Loss, Cochlear Implant

#### Genitourinary tuberculosis in a 4-year old child

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**Background:** Tuberculosis is a major health problem especially in developing countries. Genitourinary tract tuberculosis (GUTB) is one of the late complications of primary tuberculosis which usually manifests 22 years after primary infection. GUTB is the second most common extra pulmonary tuberculosis after lymph nodes in adults, but it is very rare in young children.

**Case Presentation:** We present a 4 year-old girl with GUTB that her symptoms began at the age of three. She was admitted to hospital with dysuria and itching of anal area. She had a history of prolonged mostly nocturnal fevers, shivering generally during sleep and sometimes before urination since one year before admission. The tuberculin test was 33mm after 72 hours. PCR was performed on morning gastric juice and urine samples and Mycobacterium Tuberculosis was identified in both. This case is one of the handful cases of GUTB in such a young age in literature.

**Keywords:** Genitourinary Tract, Tuberculosis, 4- Year Old

### Primary amoebic meningoencephalitis in an Iranian infant

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*Naegleria fowleri*, a free living amoeba, can cause devastating and deadly diseases in humans. This is the first report of primary amoebic meningoencephalitis from Iran.

**Case Presentation:** A five-month-old male infant presented with the history of fever and eye gaze for three days, after beginning of bacterial meningitis, a plain and contrast CT revealed communicated hydrocephalus. CBC showed WBC 20,500 /mm<sup>3</sup> (PMN 65%, lymphocytes 30%), hemoglobin 10.5 g/dL, hematocrit 31.9%, and platelet count 731,000/mm<sup>3</sup>. ESR and CRP were 92 mm/h and 11.3mg/L, respectively. Stool exam and urine analysis were normal; blood, urine, and stool culture were negative. Following CT, lumbar puncture was done and CSF sent for microbiological and cytological analysis which revealed milky color, 2500 WBC cells/mm<sup>3</sup> (PMN = 75%, Lymph = 25%) without any RBC with 391 mg/dL protein and 3mg/dL of sugar. No bacteria or fungal elements were seen on gram stain. Bacterial culture was negative. Provisional diagnosis of acute bacterial meningitis was made, and the child was treated empirically by intravenous ceftriaxone 100 mg/kg/day and vancomycin 15 mg/kg/dose. Smear and PCR of CSF for tuberculosis was negative. Four days after starting of vancomycin and ceftriaxone, fever has not decreased so CSF examination was repeated. Second CSF analysis revealed 150 WBC cells/mm<sup>3</sup> (PMN = 70%, Lymph = 30%), RBC 500 cells/mm<sup>3</sup> with 121 mg/dL protein and 16 mg/dL of sugar. *Naegleria Fowleri* was seen on microscopic examination of wet preparation of CSF. In the repeat of CSF analysis on microscopic examination of wet preparation of CSF, *Naegleria Fowleri* was seen. Then, Amphotericin B and Rifampin were started. On follow-up, two months later, the patient was totally asymptomatic.

**Keywords:** Amoebic Meningoencephalitis, *Naegleria fowleri*

### Evaluation of nosocomial urinary tract infection in patients admitted in pediatric intensive care unit (PICUs) of Ali-ebne abi taleb hospital (2012)

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**Background:** Nosocomial infections are major public health problems in many developing countries, particularly in intensive care units. Urinary tract infection is the most common nosocomial infection including over 40% of nosocomial infections. The objective of this research was to find the risk factors of nosocomial urinary tract infections which can be preventable.

**Methods:** This cross-sectional study was performed on 259 patients admitted to the pediatric intensive care unit at the Ali ibn Abi Talib hospital in 2012. Data were extracted from patients' records. The data were analyzed by SPSS software and chi square test.

**Findings:** The results showed that 36.7% of the children were hospitalized with urinary tract infection. Nosocomial urinary tract infection was more common in cases older than 1 year old. It was also more common in females. Moreover, the chance of being admitted because of infection was greater in cases with nosocomial urinary tract

infection. The most common bacterial species in descending order were *Candida albicans*, *E.Coli*, Mixed gram-negative bacilli, *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Enterobacter*.

**Conclusion:** This study like all the previous studies demonstrated that the incidence of urinary tract infections in patients hospitalized in intensive care unit was high. Furthermore, the common pathogens of nosocomial urinary tract infection were similar to other studies.

**Keywords:** Urinary Tract Infection, Urinary Catheter, PICU

### Posterior mediastinal mass: an unusual presentation of pediatric tuberculosis

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**Background:** Mediastinal mass is a rare presentation of tuberculosis in children. The sources of posterior mediastinal mass are usually neurogenic tumors, infections or vascular lesions.

**Case Presentation:** Here a 12-year-old girl is presented who manifested with a posterior mediastinal mass extending to right paravertebral space from T3 to T8 with extension to retro cardiac and subcarinal spaces. She suffered from chronic cough, prolonged fever, and weight loss. The results of tuberculin skin test and biopsy was compatible with tuberculosis. Mediastinal tuberculosis was approved by histologic and polymerase chain reaction. The patient was treated by anti-tuberculosis drugs and surgical intervention.

**Keywords:** Posterior Mediastinal Mass, Tuberculosis, Chronic Cough

### مقایسه میزان آنتی بادی ضد سرخک در کودکان ۱۳ تا ۲۴ ماهه دریافت بیمارستان کودکان بندرعباس کننده واکسن سرخک مراجعه کننده به

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**زمینه:** سرخک بیماری ویروسی حاد با توان سرایت بالا است که به دلیل بروز همه گیری های کوچک در افراد واکسینه شده و در نتیجه ایجاد عوارض و مشکلات گوناگون در این مطالعه مورد توجه قرار گرفته شده است.

**روش:** در این مطالعه مقطعی که از مهرماه ۱۳۹۰ تا مهرماه ۱۳۹۱ در شهرستان بندرعباس انجام شد، ۱۹۵ کودک ۱۳ تا ۲۴ ماهه که برای دریافت خدمات بهداشتی به مراکز بهداشت مراجعه کرده بودند مورد بررسی قرار گرفتند. نمونه ها پس از جمع آوری به یک آزمایشگاه فرستاده شد و تیتراژ ۲/۱ بر مبنای راهنمای کیت مورد استفاده بعنوان سطح ایمنی مورد قبول در نظر گرفته شد.

**یافته ها:** بر اساس اطلاعات بدست آمده، میانگین تیتراژ آنتی بادی در کودکان دریافت کننده دوز اول (۱۳-۱۸ ماه) ۵۷/۶۹ و در کودکان دریافت کننده دوز دوم واکسن ۵۵/۷۰ بود.

**نتیجه گیری:** این مطالعه نشان میدهد تفاوت آماری قابل قبولی میان دو گروه سنی ۱۳-۱۸ ماه و ۱۹-۲۴ ماه که به ترتیب دوز های اول و دوم واکسن MMR را دریافت کرده بودند، یافت نشد. همچنین رابطه معناداری بین جنسیت و میانگین تیتراژ آنتی بادی مشاهده نشد.

**کلمات کلیدی:** سرخک، تیتراژ آنتی بادی، واکسن MMR



## محدودیت های واکسیناسیون در کودکان مبتلا به آلرژی غذایی

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مهمترین و زودرس ترین راکسیون واکسیناسیون عبارت است از آنافیلاکسی که شیوع آن ۱-۳ مورد در میلیون می باشد و افرادی که واکسیناسیون انجام میدهند باید بتوانند بین آنافیلاکسی، تشنج و Fainting تشخیص افتراقی بدهند. آلرژی به تخم مرغ و جوجه که به هیپرسنسیبیتی IGE تعریف میشود نشانه های زیر ایجاد مینمایند: کفای، التهاب دهان و حلق، اشکال در تنفس و هیپوتانسیون. آلرژی به جوجه مربوط به گوشت جوجه است. آلرژی به تخم مرغ یکی از شایع ترین انواع آلرژی غذایی است که شیوع آن ۱-۳ درصد در کودکان کمتر از ۳ سال میباشد. واکسن ها معمولاً دارای کمی پروتئین تخم مرغ میباشد که عامل بروز راکسیون هیپرسنسیبیتی در بعضی از کودکان واجد آلرژی به تخم مرغ میباشد که شدت آن به واکسن های مختلف متفاوت است. واکسن تب زرد که در چنین جوجه رشد داده میشود ممکن است علت آلرژی به جوجه یا تخم مرغ باشد و بطور روتین نباید در افرادی که به تخم مرغ یا جوجه حساسیت دارند تجویز گردد و برای تجویز آن باید با متخصص آلرژی مشاوه گردد. امکان انجام واکسیناسیون بعد از ارزیابی دقیق، تست های پوستی و چالش درجه بندی شده و حساسیت زدایی ممکن میگردد. در مصرف واکسن هاری (RabAvert) که روی چنین جوجه کشت داده میشود نیز احتیاطات لازم باید به کار برود. پروتئین تخم مرغ در واکسن هاری نوع Imovax وجود ندارد و می توان آن را بکار برد. سایر عوارض به مربوط به ایمونیزاسیون اختصاصی شامل آنافیلاکسی به اجزاء واکسن یا عوامل تثبیت کننده آن است. نمونه این راکسیون ها شامل آنافیلاکسی به توکسین کزاز و آنافیلاکسی به ژلاتین در واکسن MMR است. آنافیلاکسی بعد از واکسن سرخک نادر است. در هر دو گروه هیپرسنسیبیتی به تخم مرغ و آن ها که سابقه آلرژی به تخم مرغ داشتند گزارش شده است که ممکن است مربوط به سایر ترکیبات مثل آنوایمپین باشد. مقدار پروتئین تخم مرغ در MMR به نظر میرسد برای ایجاد آلرژی ناچیز باشد. واکسن روتاتوکس در آمریکا در سال ۱۹۹۸ به صورت واکسن تتراوالان Rostashield خوراکی داده شد، اما مشاهده شد که ریسک آنوایمپین دارد و لذا در سال ۱۹۹۹ متوقف گردید. در سال ۲۰۰۶ واکسن تتراوالان به نام Rotateq (RV5) تهیه شد که در ۳ دوز خوراکی توصیه گردید. در سال ۲۰۰۸ واکسن خوراکی دیگری به نام Rotarix (RV1) تهیه گردید و توصیه گردید در ۲ دوز تجویز گردد. در هیچ کدام از این ۲ واکسن آنوایمپین مشاهده نگردید. واکسن خوراکی روتاتوکس در ۲-۴ ماهگی و واکسن خوراکی روتاریکس در ۲-۴ ماهگی توصیه شده است و حتی در نوزادان نارس هم توصیه شده است.

## بررسی وضعیت بیماری سیاه سرفه در سال ۱۳۹۱ در ایران

فهیمة دوستی

مرکز مدیریت بیماریهای واگیر

**زمینه:** سیاه سرفه یک عفونت حاد تنفسی بوده و مشخصه آن وجود سرفه های طولانی مدت می باشد. از سال ۱۳۶۳ با ادغام برنامه ایمن سازی کودکان در شبکه ارائه خدمات بهداشتی درمانی اولیه و پوشش بالای ۹۵ درصد واکسیناسیون شیوع این بیماری در کشور کاهش بسیار یافت.

**روش:** در این مقاله خصوصیات اپیدمیولوژیک بیماری براساس یافته های نظام مراقبت جاری و نتایج آزمایشگاهی بیماران مورد بررسی قرار گرفت. تعریف مورد مشکوک بیماری در دستورالعمل کشوری هر مورد با سرفه بیش از دو هفته به همراه یکی از علائم سرفه های قطاری، صدای هوپ و استفراغ بعد از سرفه است.

**یافته ها:** در سال ۱۳۹۱ تعداد ۱۲۵۹ مورد مشکوک به سیاه سرفه از ۴۲ دانشگاه علوم پزشکی در کشور گزارش گردید. میزان بروز بیماری ۱/۷ درصد هزار جمعیت و پوشش واکسن ثلاث نوبت سوم ۹۹٪ گزارش شد. بیشترین موارد مربوط به دانشگاههای علوم پزشکی مازندران ۲۲۷ مورد (میزان بروز ۸/۷۱)، شهید بهشتی ۱۳۵ مورد (میزان بروز ۱/۴۲)، تبریز ۷۲ مورد (میزان بروز ۱/۹۲)، زنجان ۷۱ مورد (میزان بروز ۷) و قم ۶۵ مورد (میزان بروز ۶) درصد هزار جمعیت بوده است. کودکان زیر یکسال بیشترین گروه سنی با ۶۸۹ مورد (۵۵٪) را تشکیل داده اند که از این تعداد ۶۰۱ مورد بستری و ۵۸ مورد مراجعه سرپایی داشته اند. سپس گروه سنی ۱-۵ سال که ۱۸۱ مورد (۱۴٪) که از این تعداد ۹۹ مورد بستری و ۷۱ مورد مراجعه سرپایی داشتند. در گروه سنی ۵-۱۰ سال ۱۴۵ مورد (۱۱٪) که تعداد موارد بستری ۶۰ مورد و مراجعه سرپایی ۸۵ مورد است. گروه سنی ۱۰ سال به بالا ۲۴۴ مورد (۱۹٪) را تشکیل داده اند. ۶۸٪ بیماران در مناطق شهری سکونت داشتند و از نظر شیوع فصلی بیشترین موارد در فصل تابستان ۳۰٪ گزارش شد و از نظر سابقه واکسیناسیون ۶۸٪ دارای سابقه واکسن کامل و ۱۰٪ فاقد سابقه واکسن و ۲۲٪ زیرسن واکسن بودند. تعداد نمونه سواپ نازفاریکس از موارد مشکوک ۱۱۶۲ مورد (۹۲٪) است و تعداد موارد تأیید شده آزمایشگاهی بر مبنای کشت در دوره زمانی فوق ۳۵ مورد است که از نظر جداسازی باکتری از نمونه های ارسالی افزایش داشته است.

**نتیجه گیری:** پوشش بالای واکسیناسیون کودکان در کشور توانسته است سبب کنترل شیوع بیماری سیاه سرفه در کشور شود. افزایش موارد مشکوک و قطعی بیماری در کشور عموماً ناشی از تقویت حساسیت نظام مراقبت دریافتن و گزارشدهی موارد مشکوک به سیاه سرفه می باشد. درصد پائین موارد بیماری در سنین بالای ده سال در کشور می تواند ناشی از عدم توجه کافی پزشکان به بیماری سیاه سرفه در بزرگسالان و جوانان باشد و البته تغییر تابلوی بالینی بیماری در بزرگسالان در عدم شناسایی این بیماری نقش دارد.

کلمات کلیدی: سیاه سرفه، واکسیناسیون، شیوع

## عفونت سیتروباکتر

پرویز طباطبایی، فریده نجات

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**گزارش مورد:** بیمار پسر ۷ ساله که به علت تب، تشنج و اختلال هوشیاری به اورژانس بیمارستان مراجعه و بستری شده است. در شرح حالی که از بیمار گرفته شد در چند روز اخیر بیمار اسهال و استفراغ داشته، پدر و مادر هر از چند گاهی برای بازی کردن با فرزندشان وی را بالا و پایین می انداختند. در بدو مراجعه درجه حرارت ۳۹/۵ درجه سانتی گراد، تعداد تنفس ۳۰ در دقیقه و ضربان قلب ۱۰۰ در دقیقه بود. بیمار خواب آلود بوده، ملاحظه بیمار ۳-۴ سانتی متر باز و شدیداً برجسته بوده است. فرمول شمارش بیمار لوکوسیتوز، سیدمانتاسیون و CRP هر دو شدیداً بالا و بیمار آنمیک بوده است. از بیمار سی تی اسکن از مغز به عمل آمد که ساب دورال هماتوم را نشان داد. متخصص کودکان و جراح اعصاب در بالین بیمار حاضر و جراح اعصاب تصمیم می گیرد که بیمار را به اتاق عمل برده و هماتوم را خارج نماید. در اتاق عمل هماتوم در فضای ساب دورال را تخلیه کرده و جهت کشت، سلول، قند و پروتئین به آزمایشگاه میفرستند. درمان با داروهای ضد تشنج شروع شد. کشت مایع ساب دورال سیتروباکتر را نشان داد که آنتی بیوتیک های وسیع الطیف شروع گردید. بیمار دوبار پونکسیون مایع ساب دورال شد که دو بار آخر طبیعی بوده است. سیدمانتاسیون و CRP چندین بار انجام شد که همواره بالا بوده است. بیمار سه هفته در بیمارستان با آنتی بیوتیک های وسیع الطیف همراه با داروهای ضد تشنج درمان شد و با حال عمومی نسبتاً خوب همراه با دارو ترخیص گردید. در مراجعات بعدی حال عمومی خوب بوده، تب بیمار قطع شده و آزمایشات طبیعی بوده است.

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**یافته ها:** در سال ۲۰۱۲ تعداد ۴۱۱۰ مورد مشکوک به بیماری سرخک شناسایی گردید که با توجه به شاخص کشف که حداقل ۳ مورد مشکوک به ازای هر یکصد هزار نفر جمعیت کشور میباشد شاخص نمونه گیری بالاتر از حد مورد انتظار یعنی ۴۰۹ مورد به ازای هر یکصد هزار نفر جمعیت بوده است. ۷۳٪ موارد مشکوک از مرکز بهداشتی درمانی و مابقی از بیمارستانها، کلینیکها و مطب های خصوصی گزارش شده اند. از کل موارد مثبت نمونه گیری شده ۲۳۴ مورد از نظر آزمایشگاهی مثبت شده اند. کل موارد مثبت آزمایشگاهی از نظر گروه های سنی به این صورت بوده است که ۳۴٪ بین ۱-۴ سال، ۱۵٪ بین ۵-۹ سال، ۷٪ بین ۱۰-۱۴ سال، ۲٪ بین ۱۵-۱۹ سال، ۳٪ بین ۲۰-۲۴ سال و ۶٪ بالاتر ۲۵ سال بوده اند. لازم به توضیح است ۳۳٪ موارد بیمار مبتلا به سرخک در گروه سنی کمتر از یکسال (قبل از شروع سن واکسیناسیون) می باشند. از نظر سابقه واکسیناسیون ۳۳٪ موارد مثبت آزمایشگاهی سرخک زیر یکسال (زیر سن واکسیناسیون)، ۴۳٪ موارد فاقد سابقه واکسیناسیون و ۲۵٪ موارد دارای سابقه واکسیناسیون می باشند. سوش غالب ویروس سرخک از نظر ژنوتیپ از نوع B3 بوده است.

**نتیجه گیری:** با توجه به اینکه سوش غالب ویروس سرخک طی سالهای گذشته از نوع D4 بوده است و موارد بصورت اسپورادیک رخ داده که این سوش در کشور ما آندمیک می باشد، پیدایش سوش جدید سرخک از نوع B3 (جداشده از بیماران جدید کشف شده در کشور) در سال ۲۰۱۲ و همچنین سابقه ارتباطات اپیدمیولوژیک با کشور پاکستان نشان دهنده این بوده که منبع عفونت بیماری سرخک وارده (Imported) از کشورهای همسایه، عمدتاً پاکستان می باشد. با توجه به احتمال بالابودن مواجهه با موارد مثبت سرخک در ساکنین مستقر در شهرها و روستاهای همجوار ایران با کشور پاکستان در استان سیستان و بلوچستان (بعلت ارتباطات قومیتی در دو سوی مرز مشترک) تا انتهای سال ۲۰۱۲ طی چهار برنامه گسترده ایمنسازی همگانی برعلیه بیماری سرخک، حدود ۲۸۰,۰۰۰ کودک در گروه های سنی ۹ ماه تا ۱۲ سال برعلیه بیماری سرخک واکسینه گردیدند. همچنین پیشنهاد شد با توجه به بالا بودن موارد زیر یکسال مبتلا به سرخک در شهرستانهای استان سیستان و بلوچستان، کودکان در این استان علاوه بر ۱۲ و ۱۸ ماهگی یک دوز اضافه واکسن سرخک در ۹ ماهگی نیز دریافت نمایند.

**کلمات کلیدی:** واکسیناسیون، طغیان، سرخک