1830 HBEAG SEROCONVERSION IN CHILDREN INFECTED DURING EARLY CHILDHOOD WITH HEPATITIS B VIRUS

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MR Hasanjani Roushan, A Bijani, S Ramzaninejad, M Hasanjani Roushan, MJ Soleimani Amiri, M Baiani. *Infectious Diseases Research Center, Babol Medical University, Babol, Iran*

Background and Aims Seroconversion of HBeAg to anti-HBe is associated with lower viral load and liver diseases. The purpose of this study was to assess the seroconversion rate of HBeAg to anti-HBe in children who acquired HBV infection during childhood period.

Methods From September 1990 to December 2010, 139 HBeAg positive children were followed up. Eighty-one subjects were failure of Hepatitis B immune globulin (HBIG) and hepatitis B vaccination at birth and 58 children < 10 years who were born before 1990 and did not receive HBIG and vaccine. HBsAg, HBeAg, anti-HBs and anti-HBe was assessed every six months.

Results Sixty two (44.6%) cases were males and 77 (55.4%) were females. Mean duration of follow-up was 18±6.6 years. Twenty-four (17.3%) mothers were HBeAg positive and 115 (82.7%) anti-HBe positive. Eighty-two (59%) children became anti-HBe positive. Seroconversion rates in the first, second and third decades were 25%, 63.4% and 70.5%, respectively ($p=0.001$). The children of anti-HBe positive mothers had higher seroconversion rate than the HBeAg positive mothers (75% versus 33.9%, $p=0.0001$). Time to seroconversion rates in children born to HBeAg positive mothers was similar to those born to anti-HBe positive mothers ($HR=1.03$, $p=0.973$). Time to seroconversion rates in children who received hepatitis B vaccine and HBIG was higher than those who did not ($HR=6.35$, $p=0.001$).

Conclusions HBeAg seroconversion in the second and the third decades were higher than the first decade. Children born to anti-HBeAg positive mothers and those who received HBIG and hepatitis B vaccine had higher seroconversion rates.

1831 RUBELLA-VACCINE EFFECTIVENESS 5YRS AFTER MASS VACCINATION: MULTI-CENTER SERA-EPIDEMIOLOGY RETROSPECTIVE COHORT STUDY

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¹E Ahmadnezhad, ²FF Jahani, ³M Karamyayr. *¹Tehran University of Medical Sciences; ²Infectious Disease, Urmia University of Medical Sciences, Tehran; ³Pediatrics, Urmia University of Medical Sciences, Urmia, Iran*

Background The vaccine has been in use since 1969. In December 2003, during mass camping for Measles/Rubella vaccination in Iran, about 33 million doses of vaccine were administered to the 5–25 yrs old people. This serological survey was conducted to evaluate the effectiveness of Rubella vaccine after 5yrs of mass camping in mothers and their neonates.

Methods This was a historical-Cohort study has been done in September (2009–2010). Study population was 180 women (20–30 yrs old) who referred for pregnancy routine care. All pregnant were at first time and didn't have Rubella-history in the past 5 years. Serum samples of women were evaluated for IgG level and newborn dried blood spot samples were evaluated for IgG and IgM levels.

Results The IgG levels of mothers were 50–10 IU (27.3%), 100–50 (19.3%) and above 100 IU (53%). All of IgM titers in newborns were negative. It was significantly relationship between level IgG of Mothers and Full-Term Newborns ($OR=3.45$, $95\%CI=1.54-7.90$).

Conclusion The mass vaccination has been effectiveness then the routin surveillance had to evaluate the IgG levels of reproductive age's mothers.

1832 MEDICAL STUDENT ATTITUDES AND PRACTICES ASSOCIATED WITH RECEIVING HEPATITIS A VACCINE AND VACCINE ADVERSE EVENT AND EFFECT ON ACCEPTABILITY

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¹Y Ozsurekci, ²E Karadag Oncel, ²B Ertuten, ²A Kara. *¹Pediatric Infectious Disease, Hacettepe University; ²Hacettepe University, Faculty of Medicine, Ankara, Turkey*

Objective In this study we aimed to assess the attitudes and practices of medical students regarding hepatitis A immunization and also adverse reactions of associated with vaccine and effect on acceptability.

Methods The study was performed on 103 medical students with ages between 20 and 26 years old. All the students vaccinated by the same nurse at Hacettepe University Faculty of Medicine on 14 days in December and answered a questionnaire and follow-up form.

Results The mean student age was 21.69±0.97 years. Pain with movement (58.3%) and pain with touch (38.8%) were the most common side effects at vaccination site. Despite the side effects, all of the vaccinated students wanted to receive the following dose of vaccine. Twelve of the vaccinated students (11.7 %) indicated that the reason of their vaccination was the recommendation of a pediatric infectious disease specialist. One of the major reason for not wishing vaccination was the cost for 60 of them (58.3%).

Conclusions The cost of vaccination and recommendation by infection specialist may have been important to receive hepatitis A vaccination for medical students and also may be for other health care workers.

1833 ACUTE NECROTIZING ENCEPHALOPATHY OF CHILDHOOD ASSOCIATED WITH INFLUENZA A

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¹A Welk, ¹S Gehring, ¹J Pohlenz, ²J Gawehn, ³G Staatz, ¹RG Huth. *¹Zentrum für Kinder- und Jugendmedizin; ²Institut für Neuroradiologie; ³Klinik und Poliklinik für Diagnostische und Interventionelle Radiologie, Sektion Kinderradiologie, Universitätsmedizin Mainz, Mainz, Germany*

Background Each year many children suffer from respiratory infections caused by Influenza A virus, but only a limited number experiences severe complications. One of these serious complications is an acute necrotizing encephalopathy (ANEC).

Methods We report two cases of patients with ANEC following upper airway infection. Both children were referred to our paediatric intensive care unit (PICU) due to rapid neurological deterioration and respiratory failure. None had received vaccination against influenza. A 16-year old boy presented with difficulties in speech and motor deficits. A 14-months old girl had multiple focal seizures. Her Glasgow-Coma-Scale was 4 on admittance to PICU.

Both patients received a MRI (Magnetic Resonance Imaging) of the brain. The MR imaging findings demonstrated abnormal signal intensity bilaterally in multiple cortical and subcortical regions. In both cases Influenza A was detected on a nasopharyngeal swab by using polymerase chain reaction assay.

Results Both patients were treated with oseltamivir without notable clinical improvement. The boy showed complete convalescence. The girl suffered from increased intracranial pressure within hours after hospital admittance needing urgent external cerebrospinal fluid drainage. Her condition was complicated by an acute respiratory distress syndrome requiring mechanical ventilation. Meanwhile her consciousness has dramatically improved, but we still expect neurological sequelae.

Conclusion To our knowledge severe complications following an infection with influenza are rare but have to be kept in mind when treating a child with respiratory infection and neurological impairment. The insufficient response to oseltamivir underlines the need

to re-evaluate the benefit of vaccination against influenza in children.

1834 SUBCUTANEOUS HUMAN HEPATITS B IMMUNOGLOBULIN (FOVEPTA) IN NEONATES OF HBV-CARRIER MOTHERS

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¹R Schloesser, ²W Kamin, ³G Kriván, ³P Siklós, ⁴W Mendling, ¹H Buxmann. ¹Neonatology, Goethe-University Frankfurt/Main, Frankfurt/Main; ²Neonatology, Protestant Hospital for Children and Adolescents; Hamm, Germany; ³Neonatology, St. Stephen Hospital, Budapest, Hungary; ⁴Gynecology, Vivantes Hospital Friedrichshain, Berlin, Germany

Background and Aims Postnatal active and passive immunization is recommended for prevention of hepatitis-B-virus (HBV) transmission in any offspring of a HBV-carrier mother. To improve convenience in application for neonates and for doctors we studied the efficacy and safety of a subcutaneous (s.c.) human hepatitis B immunoglobulin (Fovepta).

Methods In an open, prospective multicenter trial neonates of HBV carrier mothers were randomized to receive a single dose of the high concentrated human hepatitis immunoglobulin Fovepta (200 IU, 0.4 ml) either subcutaneously or intramuscularly (i.m.). The passive immunization was combined with an active vaccination against hepatitis B. Efficacy was defined as an anti-HBs-serum concentration of >100 IU/L 48 to 72 hours post vaccination. Adverse events (AE) were documented during hospital stay and follow-up surveillance of 7–15 months.

Results 31 neonates were included (17 s.c. and 14 i.m.). One infant of the s.c. group had a post-dose anti-HBs level of 81.0 IU/l. All other study patients reached a level of >100 IU/l. AEs were more often in i.m. group patients, but without statistical significance. There was no AE, which led to discontinuation from the study. 24 of 31 infants completed the follow up period. No hepatitis B breakthrough infection was observed.

Conclusions Subcutaneous vaccination with a high concentrated hepatitis immunoglobulin (Fovepta) is effective and safe in newborn infants.

(Main results of the study are accepted for publication in J Perinat Med).

1835 LIVE ATTENUATED VACCINES INDUCE GUT CATHELICIDIN ANTIMICROBIAL PEPTIDE RESPONSE IN NEONATES - A NATURAL EXPERIMENT

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SM Ahmad, M Rashid, J Alam, R Raqib. *Systems Vaccinology Group, Center for Vaccine Sciences, ICDDR, B, Dhaka, Bangladesh*

Background and Aims Oral polio (OPV) and BCG vaccines are recommended to be given at birth for protection against tuberculosis and polio, while observational studies in developing countries demonstrate reduction of mortality from infections other than target disease. The mechanism of such non-specific beneficial effects is unknown. We investigated gut antimicrobial peptides response during neonatal period who had received these vaccines simultaneously within 48-hour of birth.

Methods In a cross sectional study design, stool samples were collected from infants at 1 month of age who had (n=36) or had not (n=42) received both vaccines within 48 h of birth. Antimicrobial peptides- human cathelicidin (LL37) were measured in the extracted stool samples by ELISA. Demographic and anthropometric data were collected from the clinic and structured questionnaires.

Results Infants of the vaccinated group had 39.8% higher excretion of LL37 in stool at 1 month of age (P=0.02). Such induction is observed only to the infants who born normally (P=0.01). Sex difference had no effect. Multivariate analysis showed higher LL37 response (P=0.08) among vaccinated infants after adjusting for sex,

place of birth, mother age, postnatal age and mode of delivery. Including birth weight along with other variables indicates birth weight is significant predictor of LL37 (P=0.05) irrespective of vaccination status.

Conclusions Induction of mucosal antimicrobial peptide LL-37 following on-birth live attenuated vaccination may provide protection against other infections and possible explain the observed non-specific survival benefit in developing countries where low birth weight remains significant public health problem.

1836 INFLAMMATORY RESPONSES TO HEPATITIS B VIRUS VACCINE AMONG HEALTY TERM INFANTS AT BIRTH

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¹Çelik, ¹G Demirel, ¹FE Canpolat, ¹O Erdev, ^{1,2}U Dilmen. ¹Neonatology, Zekai Tahir Burak Maternity Teaching Hospital; ²Pediatrics, Yildirim Beyazit University, Faculty of Medicine, Ankara, Turkey

Hepatitis B virus (HBV) infection continues to be a serious global health problem. Primary prevention through immunization remains the most effective way of controlling the spread of HBV. HBV vaccines are immunogenic in newborns and infants, and provide high seroprotection. During the course of HBV vaccination, we observed that substantial number of term infants had elevated CRP values without sepsis. Therefore, we prospectively studied IL-6 and CRP responses to HBV immunization, seeking to demonstrate that immunization stimulates elevation of IL-6 and CRP levels without clinical deterioration, and that usually there is no need for antibiotic treatment.

Subjects for the study were healthy term infants without signs and symptoms of sepsis. IL-6, CRP, and white blood cell (WBC) levels were determined before immunization and 24 hours after immunization.

Study population included 70 infants. Significant increases in CRP were seen 24 hr after vaccination (p=0.000). Although CRP levels of 22 infants (31.4%) at second evaluation were above the cut-off (4.82 mg/ml), none of these infants had clinical symptoms of sepsis. After 48–72 hours, CRP level of all patients normalized with no blood culture positivity.

In conclusion, our study showed that HBV vaccine is highly immunogenic and responsible for CRP elevation in term infants without sepsis after first vaccination at birth. To the best of our knowledge this is the first study evaluating CRP response to HBV vaccine at birth in term infants. We suggest that this response should be encountered in differentiation of early neonatal sepsis to avoid unnecessary antibiotic use.

1837 EVALUATION OF IMMUNE RESPONSE TO HEPATITIS B VACCINE IN THE INFANTS DISCHARGED FROM NEONATAL INTENSIVE CARE UNIT

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¹FC Kilic, ²N Tekin, ³EC Dinleyici, ²A Aksit. ¹Pediatrics; ²Dept. of Pediatrics, Division of Neonatology; ³Pediatrics, PICU, Eskisehir Osmangazi University, Eskisehir, Turkey

The Aim of this study is to evaluate the effect of presumed risk factors on antiHBs response to vaccination in NICU graduates. The study group consisted of 150 infants (105 term, 45 preterm) who were discharged from the NICU. Hepatitis B vaccine was administered according to birth weight adjusted schedule. Infants with birth weight less than 2000 g were vaccinated at intervals of 0.1.2 and 12 months. Other infants were vaccinated with 0, 1, 6 months schedule. AntiHBs titers were studied 3 weeks to 2 months after the last vaccine dose. AntiHBs titers were classified into 4 groups as < 10mIU/mL, 11–99 mIU/mL, 100–999 mIU/mL, >1000 mIU/mL consequently. Distribution of the antiHBs levels of pre-term infants were different than term infants (p<0.05). Antibody