

180 ANTI-BODY RESPONSE IN NEWBORNS TO DIFFERENT DOSAGES OF HEPATITIS B VACCINES.

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Since the availability of the active hepatitis B vaccine in addition to hepatitis B immunoglobulin it became possible to effectively interrupt the potential transmission of virus from a pregnant carrier mother to her newborn. All babies (n=42) of HBsAg carrier mothers delivering at the Munich University's women hospital and several city hospitals in Bavaria between October 1982 and December 1983 were given passive immunisation with 1 ml hepatitis B immunoglobulin and simultaneous active vaccination with 1 ml of the hepatitis B vaccine (containing 20 µg HBsAg in 1 ml; H-B-Vax(R)). Since January 1984 half the previously recommended dose (10 µg HBsAg) has been administered to a further 35 infants. Finally with the beginning of this year some newborns at these hospitals will receive 5 µg HBsAg of the recombinant yeast-vaccine (MSD laboratories). Infants' serum samples were collected at birth, at the 2nd and 6th months of age (when the publicly recommended routine check-ups take place), and at the end of the first and second year of life. Results: All vaccinated newborns developed protecting antibody levels at a time when passively transferred anti-HBs has usually disappeared. The mean antibody-titer in the 20 µg group at the time of the third booster was higher than in the 10 µg group, but not significantly so. The new recombinant vaccine has been administered to 2 newborns as yet and their antibody response remains to be seen. Since the 2.5 years of the study anti-HBs fell below the protective level of 10 mIU/ml in two children only. These data suggest that a vaccine dose of 10 µg HBsAg might be as effective as the previously used 20 µg dose in most children.

181 VACCINE ASSOCIATED POLIOMYELITIS.

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A 3 month old girl who developed paralytic poliomyelitis three weeks after the first oral dose of Sabin polio vaccine is described. After a three days episode of viral meningitis the child developed subsequently a quadriplegic form of poliomyelitis with facial nerve involvement. All three types of vaccine polio virus were isolated from the stool for a two month period. The child developed high antibody titers to all three types of poliovirus. The pathophysiology epidemiology laboratory problems as well as preventive measures in case of vaccine associated poliomyelitis are presented.

182 ENHANCED EFFICACY OF VIRA-A, ACYCLOVIR IN COMBINATION WITH BETA INTERFERON IN HERPES SIMPLEX INFECTIONS.

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1. The efficacy of a single antiviral drug Vira-A, Acyclovir, Beta Interferon native and recombinant as compared to a combination of two antiviral drugs acyclovir and Beta Interferon was evaluated in experimental herpes keratitis in rabbits. As a single antiviral drug acyclovir ointment promoted the most rapid epithelialization time, but during the treatment period virus 'escapes' were detected. The best results were obtained with a combination of Beta Interferon and acyclovir demonstrating the potentiation of the antiviral activity of acyclovir by Beta Interferon. 2. In human herpes keratitis the combination of Beta Interferon and acyclovir resulted in a rapid epithelialization time, short virus shedding time and no relapse during a subsequent 18 month observation period. 3. In human herpes labialis the combination of Beta Interferon and acyclovir resulted in a shortening of the disease to a 1/3 of the usual period. Prophylactic Beta Interferon ointment when only numbing was felt prevented the appearance of vesicles on the lips. 4. In Herpes Zoster when started early in the disease the combination of acyclovir and Beta Interferon resulted in a shortening of disease and rapid disappearance of pain.

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Septicemia in the Newborn Intensive Care Unit (NICU) caused by Staphylococcus epidermidis (Staph epi)

Vogel M, Roos R, Fahrnow IM, Sengespeick C, Kraeft H v. Haunersches Kinderspital of the Munich University, Lindwurmstr. 4, D-8000 München 2. During 1984 nine of the 135 patients (pts) admitted to our NICU had 11 episodes of septicemia with Staph epi. In the last 5 years we had 5.2±3.6 septicemias per year in pts with a central venous catheter and of those the majority i.e. 3.4±3 were caused by Staph epi. Staph epi septicemia was considered to be present, when a) the newborns clinical condition deteriorated, b) the blood culture was positive and c) the organism could be cultured from the catheter tip (n=7), the tracheal aspirate (6) or a skin lesion (1). Additional signs of infection included an elevated body temperature to 38°-39° and a shift to the left in the white cell count with 11±3 bands. The mean birth weight of our pts is 1260±700 grs; the mean gestational age 31.2±4 weeks. The mean 5 minute Apgar score was 7.9±1.5. Eight pts were ventilated for 26.9±9 days. Seven pts had a central venous catheter made of Silastic[®] put in for a mean 17.4±12.3 days. In 4 pts the tracheal aspirate was contaminated by Staph epi 4.8±2 days before the septicemia became clinically apparent and the organism could be cultured from the catheter tip. Six of eleven infections were associated with liver enlargement to 3 cms below the right costal margin; of those 3 had elevated liver enzymes and 3 had a mean bilirubin of 3.9±1. During the same year we had 12 pts with similar gestational age, duration of ventilation and 5 minute Apgar score, who had a central venous catheter put in during antibiotic therapy mostly for maternal infection or premature rupture of membranes. In those 12 we had 2 pts, in whom we cultured Staph epi from the catheter tip, but no pt developed clinical signs of infections or cholestasis. Conclusions: Staph epi has been the most frequent organism causing septicemia in our NICU. Pts with central venous lines or those, who were ventilated were at high risk of getting Staph epi septicemia, which was associated with liver enlargement. We recommend further prospective studies to clarify, whether cholestasis can be an early symptom of Staph epi septicemia.

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INFLUENCE OF FEEDING TUBES AND GASTROSTOMY ON THE COLONIZATION OF THE STOMACH - IMPACT ON NEONATAL SEPTICAEMIA?

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It is known that catheters in the upper digestive tract may alter the local flora. Therefore, we carried out bacterial counts on 165 gastric aspirates of neonates with gastrostomy and on 101 of neonates with feeding tubes. In the first group, organisms were found in 70 %, in the second group in 30 % of all cases. Enterobacteriaceae, Enterococci, Pseudomonas aeruginosa and Candida albicans were isolated far more frequently in the first group than in the second (p<0,01). 6 infants with gastrostomy developed septicaemia caused by the same organisms that were also found in high numbers in the gastric aspirates. The influence of non-absorbable antibiotics in children with gastrostomy was studied prospectively in 72 gastric aspirates and 48 specimens of stool. There was no highly significant difference between infants with antibiotic treatment versus those without. It is concluded that gastrostomy influences the flora of the stomach and may conceivably lead to a septicaemia.

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Incidence of P-fimbriated E.coli in feces among children leaving neonatal wards in Sweden.

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We have previously shown that one P-fimbriated E.coli clone was spread in a neonatal ward. It could there colonize fecally many of the children and also members of the staff. The children that were fecally colonized with the pyelonephritogenic, P-fimbriated E.coli clone ran a greater risk to develop pyelonephritis later on.

We have therefore studied all children leaving twenty-two different neonatal wards after the age of five days. From each child we characterized five fecal strains.

We found that a very high proportion (76%) had klebsiella/enterobacter in their feces when they left the ward. In only 39% of all the children we found E.coli in the feces.

In most of the wards a few children leaving the ward had P-fimbriated E.coli in the stool. Two of the wards showed periods of time when many of the children leaving the ward were colonized with a P-fimbriated E.coli strain.

We now continue to study these two clinics both prospectively and retrospectively to see if this relatively high incidence of P-fimbriated E.coli among the children will lead to a higher incidence of pyelonephritis.