823

RADIOLOGIC AND VIROLOGIC FEATURES OF RESPIRATORY SYNCYTIAL VIRUS (RSV) PNEUMONIA: IMPLICATIONS FOR DIAGNOSIS AND THERAPY. Robert Welliver, Aditya Kaul, Merchline M. Riddlesberger, and Pearay L. Ogra, Dept. of Peds and Radiology, SUNY, and Children's Hospital, Buffalo, N.Y.

Radiologic findings were analyzed in 24 patients with pneumonia in whom infection with RSV was documented. The diagnosis of RSV infection was made by using the fluorescent antibody staining (FAT) of nasopharyngeal secretions, and later confirmed by recovery of virus in tissue culture. Pulmonary infiltrates were observed most often in both lower and upper lobes either unilaterally or bilaterally (46%) but unilateral lower lobe involvement was also common (38%). Isolated upper lobe involvement occurred in only one questionable case. Characteristically, the infiltrates were observed to be peribronchial and/or interstitial in 100% of subjects. Lobar infiltrates did not occur, although atelectasis was noted in 21%, and small pleural effusions in 9% of subjects. Hyperinflation was commonly seen in association with interstitial infiltrates. Follow-up radiographs showed complete or significant resolution within 5 days. The rapid diagnosis of RSV was usually made within four hours of receiving the samples. Antibiotic therapy was discontinued at the time of diagnosis by FAT (1-3 days) in 32% of cases, without any evidence of subsequent clinical relapse. These data suggest that appropriate use of FAT and correct interpretation of chest radiographs may enable the clinician to limit the use of antibiotics and the duration of hospitalization in patients with RSV infection.

826

FACIAL CELLULITIS IN CHILDREN: DIAGNOSIS BY NEEDLE ASPIRATION. Terry Yamauchi and Kathleen D. Eisenach, Univ. of Ark. Med. Sci., Ark. Child. Hosp., Dept. of Peds. and Microbiol., Little Rock, AR.

Facial cellulitis in 27 children between the ages of 2 months and 7 years was studied over a 15 month period. No child had received antibiotics for 2 weeks prior to the study. After obtaining a careful history, physical examination and informed consent, the area of inflammation was cleansed with iodine and alcohol. Local anesthesia was not utilized in this study. Aspiration was performed by inserting a sterile 20-gauge needle attached to a 1.0 ml-syringe into the advancing border of inflammation. If no material was aspirated, 0.1-0.2 ml of sterile normal saline was injected into the area and withdrawn.

Twenty-one of 27 (77.7%) children had bacteria recovered by culture from the area of cellulitis. Twelve of 27 (44.4%) had organisms demonstrated by gram stain. *Hemophilus influenzae* was recovered from 10 (37%) children, while *Staphylococcus aureus* and group A streptococcus accounted for 9 (33%) and 3 (11.1%) of the cases respectively. A single child had both staphylococcus and streptococcus cultured from his localized infection. One strain of *Hemophilus influenzae* was resistant to ampicillin. No complications were encountered using the needle aspiration procedure.

Needle aspiration and culturing are reliable techniques to demonstrate bacterial pathogens associated with facial cellulitis in children.

824

WHITE BLOOD CELL CHANGES & INCIDENCE OF FEVER AFTER MATERNAL TREATMENT WITH GLUCOCORTICOID. Y.L. Wong, and H.W. Tausch, Jr., Dept. of Pediatrics, Veterans General Hospital, Taipei, Taiwan & Harvard Medical School, Boston, MA.

A double-blind prospective trial of antepartum glucocorticoid therapy to prevent HMD was carried out over 2½ years. Total white cell counts, differential counts and presence or absence of fever were assessed in the steroid (dexamethasone 4mg IM Q8H X 6) and placebo groups (1 ml saline IM Q8H X 6). In the steroid group, fever was present in 10/36 mothers in a two week period after the first dose; 2/36 cases of fever occurred after placebo ($p < 0.05$). Rupture of membranes for >24 hours before treatment occurred in 6/36 of the steroid group and 4/36 of the placebo group (N.S.).

		STEROID (n=20)	PLACEBO (n=20)	P
BEFORE	WBC (/mm ³)	10,576±2,639	10,505±3,262	(NS)
	Neutrophils	8,155±2,367	7,744±3,237	(NS)
R _x	Lymphocytes	2,013±1,088	2,250± 723	(NS)
	WBC	13,185±2,818	10,293±3,335	(<0.01)
DURING	Neutrophils	11,515±2,631	7,338±2,882	(<.001)
R _x	Lymphocytes	1,459± 721	2,400± 711	(<0.01)

We conclude that during steroid treatment there is a 25% increase in WBC, a 35% decrease in lymphocytes and a 40% increase in neutrophils probably attributable to steroids per se. An increased risk of fever was also found in the steroid-treated mothers, possibly due to increased risk of infection.

827

ANTIBODY TO HERPES SIMPLEX (HSV) IN TERM AND PREMATURE INFANTS AND IN INFECTED AND UNINFECTED INFANTS OF MOTHERS WITH GESTATIONAL HSV. Anne S. Yeager, Ann M. Arvin, Stanford Med. Sch., Dept. of Pediatrics, Stanford, Calif.

Specific antibody modifies HSV infection in newborn mice. Reports of higher mortality rates in infants delivered vaginally of mothers with cervical HSV when maternal infection was primary than when recurrent suggest that maternal antibody may modify the severity of infection in the infant. To explore this possibility, HSV I and II titers were measured in 48 term (>2.7 kg) and 20 premature (<2.0 kg) infants and in 26 healthy and 9 infected infants of mothers with recent HSV infection. Using microtiter "U" plates, each serum was tested against 100 TCID₅₀ of HSV I or II in replicates of 6. Endpoints were calculated by the Karber method. Titers of <1:5 were found in 27% of term, 35% of premature and 8% of healthy infants of mothers with gestational HSV infection. Geometric mean titers of the seropositive infants to HSV I and II in these three groups were 1:80 and 1:65, 1:67 and 1:36, and 1:35 and 1:31, respectively. A Rawl's index of ≥85 was found in 76% of infants of mothers with recent infection. All 5 infants with severe HSV infection had HSV II titers of <1:20 near onset. Three of 4 infants with mild disease had titers of ≥1:80 despite a birth weight of <2.1 kg in 2 cases. Serological and epidemiological evidence suggests that a 10th infant acquired a fatal HSV I infection from a nonmaternal source. The possibility that specific antibody might modify the course of early neonatal HSV infection should be studied further.

825

CHARACTERISTICS OF INFLUENZA B INFECTION IN INFANTS COMPARED TO CHILDREN AND YOUNG ADULTS. Peter F. Wright, David Bryant, Hidenori Meguro, David T. Karzon.

Vanderbilt Univ., Sch. of Med., Dept. of Pediatrics, Nashville
Surveillance for influenza was carried out during a B/Hong Kong epidemic, Jan.-Feb., 1977, to determine clinical, epidemiologic, viral and immunologic characteristics of illness in infants. Fifty-nine (32%) of 186 infants and young children followed in an experimental vaccine clinic undergoing initial exposure to influenza B had viral or serologic evidence of infection. Thirty-one, 53% of the 59 infected children were seen by a physician during the 4-week epidemic. Infants with virally proven influenza B infection were more highly febrile, mean 102.0°F, than either 23 school age children, mean 100.3°F, or 75 college students, mean 100.7°F, studied simultaneously. Signs of lower respiratory tract illness and otitis each occurred in 19% of infants. Lower respiratory tract signs occurred in 5% of school age and college patients. Influenza B infections in infants were clinically indistinguishable from recently documented influenza A infections in the same population. HAI seroconversion is uniformly seen after primary influenza A infection. However, after influenza B infection the HAI response was inconstant, 8 of 16 seroconverted, and of low titer, mean post-epidemic titer 8.4. Eleven children had received inactivated influenza B vaccine in 1974. Eight of 11 had measurable pre-epidemic antibody. Six of 8 children with titers of ≤16 were infected. Five of the 6 had symptomatic respiratory illness. None of 3 children with titers ≥32 were infected. The HAI response after natural infection was enhanced in vaccinees, mean post epidemic titer 84.

828

INTRANASAL ADMINISTRATION OF LIVE ATTENUATED MEASLES VACCINE IN SIX MONTH OLD INFANTS. A PRELIMINARY TRIAL. John M. Zahradnik, Joseph Mulinare, James D. Cherry, Nimrod Bwibo, UCLA Sch. of Med., Dept. of Peds., Los Angeles and Univ. of Nairobi Sch. of Med., Dept. of Peds., Nairobi Kenya.

Measles morbidity and mortality in Kenya are alarming despite vigorous immunization efforts. Thirty percent of Kenyan children acquire measles in the first year of life. Successful immunization at age 17 mos. is far from optimal because of transplacentally acquired antibodies. Consequently, illness occurs in a substantial number of previously vaccinated children who failed to acquire active immunity. Because of the high illness rate in previous vaccinees, intranasal administration of vaccine was used in an attempt to stimulate a nasal antibody response even if a serum antibody response could not be elicited. Live, further attenuated Schwarz strain vaccine was administered intranasally to 41 6 mo. old African children. Twenty-two (53.7%) of these children had no detectable pre-vaccination titer (HAI <5). Twenty-eight children were available for followup; 8 (32%) seroconverted and/or had a fourfold titer rise. Six (21.4%) had measurable HAI antibodies in convalescent nasal washes and 3 of these had a fourfold titer rise of serum antibody. One child had a nasal antibody response even though there was no serum antibody response. Intranasal vaccination with live measles vaccine appears to be moderately effective in inducing serum and nasal HAI antibody in 6 mo. old infants. Further trials employing multiple doses, or greater concentrations of virus/dose or less attenuated vaccine would seem to be indicated.