890 CLINICAL DIAGNOSIS OF CHLAMYDIAL PNEUMONIA IN INFANCY

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Chlamydia trachomatis (Ct) pneumonia in infancy is considered by many to have distinctive clinical and laboratory features. The purpose of this study was to determine whether Ct infections can be distinguished from other respiratory infections by history, physical examination, chest radiographs, and blood count. From March 1985 to June 1986, we studied prospectively 55 infants 2 to 12 weeks old with cough, coryza, or congestion. Nasopharyngeal washings were obtained for virus culture, RSV antigen tests (RSV season only), chlamydia culture and direct immunofluorescent microscopy, and pertussis culture and direct microscopy. The mean age of the children was 6.5 weeks and 16% were prematures (<37 weeks). Overall, 34/55 (62%) had a respiratory pathogen identified including Ct (11), RSV (13), parainfluenza virus (4), rhinovirus (3), pertussis (2), and CMV (1). Three of the 34 children had a mixed and viral infection. Radiographs were abnormal in all 11 cases of Ct pneumonia and 16/22 (73%) cases of viral or pertussis infection. Conjunctivitis, cough, absence of fever, radiographic abnormalities and eosinophilia (>500/cu mm) were seen no more often in Ct infection than in viral infection or pertussis. Only a history of venereal disease in the mother helped to identify infants with Ct (55% vs 29%, $p<0.05$ Chi sq.). We conclude that Ct pneumonia in infancy cannot be distinguished clinically from viral respiratory infections and pertussis. A careful history for venereal disease in the mother should always be taken when evaluating a child with possible Ct pneumonia.

891 EFFICACY OF HAEMOPHILUS INFLUENZA TYPE B (b-CAPSA 1) POLYSACCHARIDE VACCINE IN 87,541 CHILDREN.

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During the 13 months between June 1985 & June 1986 we immunized 87,541 children ages 2-5 yrs of age with b-CAPSA 1 vaccine. We have conducted extensive surveillance for cases of invasive disease due to Hib in vaccinated and unvaccinated cohorts using multiple modality surveillance techniques:active and retrospective review of microbiology records, an active and retrospective review of pediatric ward records, a computerized review of all hospitalized patients for diagnoses possibly compatible with Hib disease and a review of all patients hospitalized outside our HMO. We have seen two cases of vaccine failure and 21 cases of culture positive disease in unvaccinated children. We calculate 3.49 cases per 100,000 patient years of observation in the vaccinated group and 25.61 cases per 100,000 patient years in the unvaccinated cohort. Efficacy is thus estimated to be 86.4% for b-CAPSA 1. Studies are ongoing at this time.

In addition we have seen 4 cases of disease due to Hib within one week of vaccination. This is a 10 fold increased rate over the backround risk of disease in unvaccinated children (p less than 0.001 by Fischer exact test). This may be due to a real increase in disease risk following vaccine or may be due to self selection of patients seeking vaccine after exposure to an index case. The possible factors operative in these four cases is currently under investigation.

891A TREATMENT OF CHLAMYDIA TRACHOMATIS (Ct) DURING PREGNANCY IDENTIFIED BY CHLAMYDIAZYME (CZ): IMPACT ON INCIDENCE OF CHLAMYDIA-LIKE ILLNESS IN INFANCY.

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Ct colonization of the endocervix is common during pregnancy and infants are frequently infected during delivery. Recent data indicates that treatment will reduce perinatal transmission. CZ (Abbott Lab.) is a rapid, accurate enzyme immunoassay for Ct antigen detection which allows definitive diagnosis in an economic manner. We prospectively evaluated 200 asymptomatic women in the third trimester (EGA 28-32 weeks). An endocervical specimen from each woman was submitted for CZ. 52/200 (26%) were positive and offered treatment with erythromycin. Sexual partners were also treated. CZ was repeated 3-4 weeks after therapy in 38/52 (73%) positive women and only one (3%) remained positive. To date, 34/52 (65%) infants born to positive women have been prospectively evaluated for upper respiratory infection (URI), pneumonia (P), otitis media (OM), and conjunctivitis (C). Infants of 30 CZ negative women served as controls. The results are as follows:

	URI*	P	OM	C#
Study Group (34)	10	0	2	3
Control Group (30)	10	0	1	1

* NS (Fisher's); # all CZ negative

We conclude that CZ is a useful means of identifying Ct colonization during pregnancy and that treating CZ positive women with erythromycin reduces the incidence of chlamydia-like illness in their infants to that of infants born to uncolonized women.

●892 RETROVIRAL ANTIGENEMIA IN CHILDREN WITH HIV INFECTION.

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A selected group of 16 children with suspected or documented infection with the Human Immunodeficiency Virus (HIV) were tested for HIV antigen using an ELISA antigen capture assay. Fifteen were antigen positive at some time in their life. Two of these 15 children had immunologic abnormalities but were consistently HIV antibody negative (HIV Ab-). Five of the children were tested during the neonatal period and subsequently for 4-10 months. All 5 are HIV Ab+ but immunologically and clinically well to date. Three of the 5 were HIV antigen negative (HIV Ag-) at birth but 2 have since become HIV antigen positive (HIV Ag+). Two of the 5 were HIV Ag+ at birth but one is HIV Ag- after 8 months. Two HIV Ab+ Ag- mothers produced children who were HIV Ag+ at birth. Two HIV Ab+ Ag+ mothers produced children who were HIV Ag- at birth. Thus HIV antigen need not passively cross the placenta as does HIV antibody. Two sets of HIV Ab+ twins were also HIV Ag+. One of each set of twins developed severe HIV-related illness in the 1st 4 months of life. Within each set, the affected twin had the higher titre of antigen. Measurement of HIV antigen may be useful in evaluating the presence of HIV infection in the first months of life, irrespective of their HIV antibody status, particularly when repeated at regular intervals..

893 CHLAMYDIAL PNEUMONIA OF INFANCY IN SIBLINGS.

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Because Chlamydia trachomatis (Ct) genital tract infection in females may persist without symptoms for months to years, and because reinfection may occur, siblings born to chronically infected or reinfected women theoretically are at risk for perinatal Ct infection. We describe two brothers born 16 months apart with Ct pneumonia. A 3 week old infant with cough and eye discharge was hospitalized because of an apneic episode requiring resuscitation. He was afebrile, had eosinophilia, and bilateral interstitial infiltrates on chest x-ray. Ct was identified in nasopharyngeal (NP) washings by direct immunofluorescent microscopy and by culture. The mother's first child also had been hospitalized at 5 weeks of age with afebrile pneumonia. Ct pneumonia was suspected, but a culture of NP secretions, collected after the child had begun oral erythromycin, was negative. An earlier specimen, collected for viral studies before erythromycin was begun, was retrieved from the freezer; it was strongly positive for Ct by both immunofluorescent microscopy and culture. This experience highlights the risk of symptomatic Ct infection in siblings born to chronically infected or reinfected women and provides another important reason to treat the parents of infants with Ct infection for presumed Ct genital infection.

894 EMERGENCE AND PERSISTENCE OF BETA-LACTAMASE-PRODUCING BACTERIA IN THE OROPHARYNX FOLLOWING PENICILLIN TREATMENT.

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The emergence and persistence of aerobic and anaerobic beta-lactamase-producing bacteria (BLPB) were investigated in 26 children treated with penicillins for otitis media or pharyngitis and in 28 nontreated control children. Beta-lactamase-producers were isolated in 3 (12%) of the treated children before therapy, in 12 (46%) 7-10 days after completion of therapy ($P < 0.01$), in 9 (35%) 40-45 days after therapy, and in 7 (27%) 85-90 days after therapy. These organisms were present in 3 (11%) of the nontreated children, and the number of patients harboring BLPB stayed constant throughout the 3-month follow-up. The predominant BLPB were Bacteroides sp. (Bacteroides melaninogenicus group, Bacteroides oralis, and Bacteroides ruminicola), Staphyloccus aureus, Haemophilus influenzae, and Branhamella catarrhalis. The emergence and persistence of BLPB after penicillin therapy may have important implications for the antimcirobial management of infections of the upper respiratory tract.