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PROSPECTIVE STUDY OF MATERNAL AND INFANT INFECTION WITH CHLAMYDIA TRACHOMATIS. Margaret R. Hammerschlag, Marlene Anderka, Dorothy McComb, Deborah Semine, William M. McCormack, (Spon. by A.L. Smith). Channing Laboratory; Harvard Medical School; Harvard School of Public Health; Boston City Hospital, Boston, MA.

We examined endocervical and serum specimens from 322 pregnant women for *C. trachomatis* and for chlamydial antibody. Only 6(2%) of the women were infected with *C. trachomatis*. Chlamydial antibody was present in the genital secretions and serum of 47% and 73% of the women, respectively. Five infants born to the infected women and 89 control infants were followed for six months. Four of 5 infants born to infected women harboured *C. trachomatis*. Two developed culture positive conjunctivitis; two had nasopharyngeal carriage with upper respiratory symptoms but without pneumonia. One of 89 control infants developed asymptomatic nasopharyngeal carriage. Most (87%) of the infants had chlamydial antibody in the serum. Sixteen (18%) and 23(26%) of the 89 control infants had chlamydial antibody in their tears and nasopharyngeal secretions, respectively. All were asymptomatic; none developed clinical conjunctivitis or pneumonia.

These data indicate that there is a high rate of transmission of *C. trachomatis* from mother to infant and post-natal acquisition of chlamydial infection is unusual. The high prevalence of serum and local antibody to chlamydia in our population coupled with the low rate of recovery of the organism in the mothers and the low incidence of disease in their infants, suggests that chlamydial antibody may be protective.

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CEREBROSPINAL FLUID AND SERUM ANTIBODY IN RABBITS WITH HERPES SIMPLEX ENCEPHALITIS. Milo D. Hilty, Daniel R. Mann. Ohio State University, College of

Medicine, Children's Hospital, Dept. of Pediatrics, Columbus, Oh. The development of effective chemotherapy for Herpes Simplex Virus Encephalitis (HSE) with adenine arabinoside has stimulated interest in pathogenesis and the need for rapid diagnosis. To evaluate pathogenesis we have characterized herpes simplex virus (HSV) antibody in CSF and serum during the course of the illness in rabbits. The rabbit model of HSE is produced by corneal inoculation with HSV-1. Seven days post inoculation they have encephalitis with inflammatory cells in CSF and HSV in brain tissue. CSF and sera were collected prior to and days 5, 7, 9, and 12 post inoculation. Antibody was measured with radioimmune precipitation assay. The HSV-1 and control antigens were prepared in media containing C14 amino acids. The antigen-antibody precipitate was solubilized and C14 labeled HSV antigens were characterized with SDS acrylamide gel electrophoresis and autoradiography. HSV-1 antibody appeared in CSF 5 days after inoculation and serum antibody appeared on day 7. The HSV antigens precipitated from CSF and serum collected on day 12 were the same for the predominant high molecular weight group but showed differences in lesser molecular weight ranges. In this model of primary HSV-1 encephalitis antibody is detected in CSF before serum and qualitative differences are noted. These measurements better define the pathogenesis of HSE, and clinical studies are now underway characterizing antibody in human CSF and serum.

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DIAGNOSTIC SPECIFICITY OF WHITE BLOOD COUNTS IN SEPTICEMIA AT BIRTH. Benjamin A. Hart, Edmund A. Egan, Dept. Ped., SUNYAB & Children's Hosp, Bflo, NY 14222

To determine the value of white cell counts in early diagnosis of bacteremia on the first day of life, we made retrospective analysis of 3 groups cared for in our intensive care nursery. The septic group had positive blood cultures from 2 separate venipunctures on admission. One control group was minimally ill on admission, never cultured, and required only observation. Another control group was critically ill infants with negative blood cultures who died within 72 hours. All appropriate infants who had admission CBC's during 1973-77 were included. There was no difference among the groups in weight or gestational age.

	Septic N=26	Minimally Ill N=41	Critically Ill N=37
Leukocytes(x10 ³)	6.5(0.05-19.4)	14.0(6.2-27.7)*	18.3(5.0-35.4)*
Neutrophils(x10 ³)	1.9(0.0-10.6)	5.6(0.9-20.2)*	6.3(1.2-12.9)*
Lymphocytes(x10 ³)	3.0(0.0-10.9)	5.1(1.6-12.0)*	7.3(1.9-16.6)*
Platelets(x10 ⁵)	2.3(0.4-4.2)	2.4(0.8-4.7)	2.5(1.8-3.8)*

Values are mean (range). *p=.001 compared to septic. 11 of the 26 septic infants had white counts <5000; which is below the range of controls. Mortality in these 11 was 63%, and was 60% in the 15 septic infants with normal white counts. As a group, infants septic on the first day had leukopenia; neutropenia and lymphopenia were equally seen. Platelet counts were indeterminate. Leukopenia at birth strongly suggests sepsis rather than a non-infectious stress, but does not predict mortality, and 56% of septic infants are not leukopenic.

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OXACILLIN TOLERANT STAPHYLOCOCCAL BACTEREMIA IN CHILDREN. Milo D. Hilty, John S. Venglarick, Gary K. Best. Ohio State University, College of Medicine,

Children's Hospital, Dept. of Pediatrics, Columbus, Ohio. Some staphylococcus aureus strains are deficient in autolytic enzyme activity, resist killing with oxacillin and are called "oxacillin tolerant". These strains grown in culture with oxacillin, are inhibited, but are not killed. Since the clinical significance of this laboratory observation is not clear we have tested all staphylococcal isolates from 38 children for oxacillin tolerance and reviewed their hospital records. Their ages ranged from newborns to 19 years of age. Eighteen were females and 20 were males. Sixteen of the 38 patients had "oxacillin tolerant" staphylococcal infections. Eight were newborns, 4 had cancer, and 4 had no underlying disease. Six of the 16 died, 3 of the 4 were cancer patients and 3 of 8 were newborns. Twenty-two of 38 strains were non-tolerant. Six of these patients were newborns, 5 had cancer and 11 had no underlying disease. Six of these 22 patients died, one of the cancer patients, 3 of the 6 newborns and 2 with no underlying disease. Children with oxacillin tolerant organisms have a higher case fatality rate than children with non-tolerant organisms; the difference is more striking in children with cancer, indicating that children with severely impaired host defenses are at greater risk. The deficient autolytic enzyme in these strains may interfere with effective phagocytosis and antibiotic action. The usual antibiotic therapy with penicillinase resistant penicillins may not be adequate.

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TRIPLE DYE AND GROUP B STREPTOCOCCI COLONIZATION. Alfredo J. Herrera, (Spon. by Milton Markowitz),

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Since the introduction of Triple dye in the routine umbilical cord care, the incidence of Staphylococcus aureus, coagulase positive colonization and infection has dropped dramatically. Recent reports have raised questions about an increase in the incidence of group B strep colonization when Triple dye is used and that this might explain the increase incidence of group B strep infection.

In our hospital, in the period between October 76 to September 77, we had 1,616 newborn infants, an incidence of staph colonization of 25% and an incidence of group B strep colonization of 5%.

Since the introduction of Triple dye in the umbilical cord care, 378 have been born, in this group of babies the incidence of staph colonization has dropped to 5%, but the important point is that group B strep colonization has also dropped, to 1%. We believe that Triple dye, not only does not increase group B strep colonization, it even appears it may reduce it.

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TEMPERATURE SENSITIVITY OF SUBACUTE SCLEROSING PAN-ENCEPHALITIS (SSPE) VIRUS AND PERSISTENT INFECTION. David S. Hodes (Spon. by William C. Heird), Coll. of

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Temperature sensitive (ts) mutant viruses are those which grow normally at a lower (permissive) temperature but less well at a higher (restrictive) temperature. Several investigators have suggested that ts mutants play a role in the initiation and maintenance of persistent viral infection (PVI). Such mutants have been shown to be involved in the PVI of cultured animal cells in vitro, particularly in the case of veterinary viruses. It was therefore decided to determine whether a virus strain known to have caused PVI and degenerative brain disease in man did, in fact, have ts properties and whether these properties could be related to the capacity of the strain to cause PVI of cultured human cells in vitro. The Halle strain of subacute sclerosing panencephalitis (SSPE) virus was found to contain a high proportion of clones that were ts. A wild-type strain of the closely related measles virus contained no such clones. HEp-2 cells were infected with both strains of virus at permissive temperature (32°C) and restrictive temperature (39°C). The SSPE virus was able to establish PVI at restrictive temperature but not at permissive temperature. The persistently infected cells exhibited virus-specific antigen and intermittently shed infectious virus into the overlay medium but could be passed and were not destroyed. The measles virus, which lacked ts clones, could not establish PVI at either temperature.