1NFE Transmission of Epstein-Barr Virus (EBV) by Transfusion of Elood. GR FLEISHER, Children's Hosp of Philadelphia, PA EBV has been sporadically described as a cause of infectious mononucleosis (IM) following transfusion of blood (TOB) but systematic studies to establish the risk of EBV infection (inf), both silent and overt, from TOB have not been performed. We undertook a pilot study to ascertain whether children undergoing open heart surgery (OHS) requiring TOB developed EBV inf. 44 children, 3 mos-15 yrs (median 5 yrs), were enrolled and tested for EBV-specific antibodies at entry and 1,4,12,26, and 52-78 wks after surgery, 29(66%)/44 were seroneg; 3/29 (10%) died and 5(17%) have been lost to follow up. These seroneg children received 1-5 TOB (mean 3.65 units); 89% of the 106 units were seropos and each seroneg child was exposed to at least 1 seropos unit. Of the 21 seroneg (all followed >6 mos), 17(818) remained susceptible and 4(19%) seroconverted, including a 15 y/o who developed IM and 3 children 6-18 mos old with asymptomatic inf. Two asymptomatic inf probably occurred 2-6 mos after surgery and the other >6 mos postoperatively. We conclude that children undergoing OHS are at risk of acquiring EEV from TOB as they are likely (a)to be susceptible and (b)to receive seropos blood (containing EBV-infected lymphocytes). Additionally, the detection of EPV inf in 4 children following OHS suggests a need for larger, controlled studies to determine whether the source of such postoperative infections is TOB.

THE EFFECT OF BETAMETHASONE ON THE CHEMOTACTIC THE EFFECT OF BETAMETHASONE ON THE CHEMOTACHIC THE RESPONSE OF NEONATAL NEUTROPHILS. Michael M. Fuenfer, Charles J. Ingardia, John R. Raye, Charlotte F. Block, Peter J. Krause, Univ. of Conn. Health Ctr. and Hartford Hosp., Dept. of Pediatrics, Farmington, CT. Antenatal maternal steroid administration has been widely in a subscription. These is a suidered.

Antenatal maternal steroid doministration has been when y used to accelerate fetal lung maturation. There is evidence that this therapy may be associated with an increased risk of infection in the neonate. Inhibition of multiple aspects of neutrophil (PMN) function by glucocorticoids has been widely documented in adults and children. Because the host defense system of the neonate is less than fully competent, further compromise of existing PMN function may be of major importance. We performed an in vitro study to determine the effect of We performed an <u>in vitro</u> study to determine the effect of betamethasone on the random migration (chemokinesis) and directed migration (chemotaxis) on neonatal PMN. A separated cell micropore filter assay was used to study the effect of betamethasone on PMN's obtained from cord blood of healthy term became thas one of the source of the second CHEMOTAXIS CHEMOKINESIS

|                        | Control     | Betamethasone   | Control     | Betamethasone          |
|------------------------|-------------|-----------------|-------------|------------------------|
| Mean<br>Migration (Um) | 54.9±1.60   | 43.7±13.8       | 86.8±15.0   | 56.9±16.8              |
| Inhibition (%)         |             | 20.2±8.7        |             | 29.4±13.5              |
| n = 15                 |             | p <0.001        |             | p <0.001               |
| Betamethasone in       | nhibition a | of PMN motility | y, if prese | ent <u>in vivo</u> may |
| lead to a clinic       | cally sign: | ificant suscept | tability to | o perinatal            |
| bacterial infec        | tion.       |                 |             |                        |

COXSACKIEVIRUSES GROUP B ANTIBODIES IN THE VENTRICU-

1095 COXSACKIEVIRUSES GROUP B ANTIBODIES IN THE VENTRICU-LAR CEREBROSPINAL FLUID OF INFANTS WITH SEVERE ANA-TOMICAL DEFECTS IN THE CENTRAL NERVOUS SYSTEM. Charles J. Gauntt, Richard J. Gudvangen, Yves M. Brans and Arthur E. Marlin. The Univ of TX Health Science Ctr at San Antonio, Depts of Pediatrics and Microbiology, San Antonio, TX. Cossackieviruses group B (CVB) are ubiquitous viruses which rarely may be involved in congenital diseases and are known to cause central nervous system infections. We set out to determine whether the CVB might be associated with severe congenital anato-mical defects in the central nervous system (CNS), mainly congen-ital hydrocephalus, in infants. Ventricular cerebrospinal fluids from 4 of 28 newborn infants presenting with severe problems of the CVB. Two of the 4 infants with anti-CVB antibody in the ventricular fluid did not have a detectable level of the same antibody(ies) in their serum. Hydranencephaly was diagnosed in 2 of these same 4 infants. The ventricular fluid of one of the in-fants had IgM neutralizing antibody directed against coxsackie-against more than one serotype. Neutralizing antibodies directed against more than one serotype. Neutralizing antibodies to all 6 virus from the ventricular cerebrospinal fluids was unsuccessful. These data suggest the possibility of an association between con-genital infections with the CVB and severe CNS defects.

ISOLATION OF THE ETIOLOGIC AGENT OF CAT SCRATCH DIS-

ISOLATION OF THE ETIOLOGIC AGENT OF CAT SCRATCH DIS-EASE (S.G.S.). <u>Michael A. Gerber, Am K. Sedgwick, Mark</u> Ballow, Richard C. Tilton, Departments of Pediatrics and Laboratory Medicine, Univ of Corm, Farmington Attempts were made to culture the etiologic agent of CSD us-ing lymph node specimens from patients with clinical evidence of CSD and the presence of typical organisms on Warthin-Starry stains of lymph node sections. One lymph node grew 2 identical colonies on a glucose-peptone-yeast-soil extract agar plate which had been incubated at room temperature for 10 days. Gram stains of this isolate revealed gram-positive to gram-variable pleomorphic rods similar to the forms seen in the Warthin-Starry strains of Jumph node sections. Transmission electron micro-graphs (EM) of the isolate revealed all of the morphologic forms identified by light microscopy as well as all of the morphologic forms identified by light microscopy as well as all of the morphologic forms seen on EM of lymph node sections from 2 patients with CSD. The EM of the isolate demonstrated a cell wall structure consistent with a gram-positive organism lacking a cell wall. This apparent loss of the cell wall in vivo may explain earlier on tissue Gram stains. This isolate morphologically and bio-chemically resembles an organism first isolated approximately 50 years ago from cases of the Parinaud's syndrome form of CSD. The EM of che isolate demonstrated the ability of this isolate to produce gramulomatous lesions in mice and a cell-med-iated immune response in guinea pigs. Work is in progress to further define the characteristics and pathogenicity of this organism. organism.

1097 THE EFFECTIVENESS OF TWICE DAILY PENICILLIN V (PENV) IN THE TREATMENT OF GROUP A BETA-HEMOLYTIC STREPTO-COCCAL (GABHS) PHARYNGITIS. Michael A. Gerber, Linda J. Spadaccini, Edward L. Kaplan. Departments of Pediatrics, Univ of Conn, Farmington and Univ of Minn, Minneapolis Most children with GABHS pharyngitis are treated with oral penicillin given either 3 or 4 times a day. In order to deter-mine if a twice daily regimen would be as effective, 99 children with acute pharyngitis and a positive throat culture for GABHS were randomized to receive either 250 mg of penV t.i.d. or 250 mg of penV b.i.d. for 10 days. Compliance was checked by ana-lyzing urine specimens for antimicrobial activity. Two weeks mg of penv b.l.d. for 10 days. Compriance will check a check of the lyzing urine specimens for antimicrobial activity. Two weeks after completing therapy, patients returned for a follow-up throat culture. Acute and convalescent streptococcal serology were obtained on all patients. There was no difference between the two treatment groups with respect to age, sex, race, duration of the second strength finding compliance of the second tion of illness prior to therapy, clinical findings, compliance, or percentage of children with an antibody rise. Nine of the 50 or percentage of children with an antibody rise. Nine of the 50 (18%) patients who received the t.i.d. regimen and 14 of the 49 (29%) patients who received the b.i.d. regimen had the same strain of GABHS (as determined by M- and T-typing) isolated from their follow-up as from their initial throat culture and were considered penicillin treatment failures (p > 0.2). One of the 9 (22%) treatment failures in the t.i.d. group and 5 of the 14 (36%) treatment failures in the b.i.d. group were symptomatic at the time of their follow-up visits. Oral penV given twice a day appears as effective in the treatment of GABHS pharyngitis as penV given three times a day and is more convenient especially for children attending school.

DETERMINANTS OF IMMUNITY TO VARICELLA. A. Gershon,

DETERMINANTS OF IMMUNITY TO VARICELLA. A. Gershon, S.P.Steinberg, & NIAID Varicella Vaccine Collab. Study Group. New York Univ. Med. Ctr., NY, & NIAID. There have been 18 breakthrough cases of mild varicella in 240 luekemic recipients of live attenuated OKA varicella vaccine in studies over the past 4 years. To determine why most vacciness have been protected from illness after exposure but some have not, we analyzed immune responses to varicella-zoster virus (VZV) in: 1)6 normals, years after natural infection, 2)41 vaccinees before immunization, 3)23 vaccinees protected from varicella after household exposure, & 4)18 vaccinees who developed varicella. VZV antibody was measured by fluorescent antibody to membrane antigen (FAMA) & cellular immunity (CMI) by lymphocyte stimulation to VZV antigen, expressed as a stimulation index (SI). antigen, expressed as a stimulation index (SI).

| Results: (1)             |                                   | (2)             | (3)                          |                  | mild varicella                  |                        |
|--------------------------|-----------------------------------|-----------------|------------------------------|------------------|---------------------------------|------------------------|
|                          | normal<br>varicella<br>immune n=6 | vaccine<br>n=41 | protecte<br>post-<br>vaccine | near<br>exposure | <u>n=18</u><br>post-<br>vaccine | <u>mar</u><br>exposure |
| FAMA<br>Geomet<br>Mean T | 16<br>ric<br>'iter                | <2              | 10.2                         | 8.2              | 3.2                             | 2.8                    |

32±7 17±4 20±9 11±4 Mean VZ SI 20±14 2.5±.05

These data indicate that in general, the higher the VZ antibody titer the better the protection against varicella. Vaccinees with a breakthrough illness, however, have partial immunity that appears to protect them from severe disease.