**1081** BATEROIOPHAGE ARE PRESENT IN THE SPUTUM OF PATIENTS WITH BRONCHOPULMONARY Ps. AERUGINOSA INFECTIONS

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Although it is generally appreciated that Ps. aeruginosa specific phage can be isolated from natural sources in which Ps. aeruginosa can be found, such as seawater and sewage, the presence of phage at the sites of Pseudomonas infection in man is not widely recognized. Using routine bacteriological procedures we show that species-specific phage can be consistently recovered from the sputum of patients with chronic Ps. aeruginosa bronchopulmonary infections, including 6 patients with cystic fibrosis and one non CF individual. Ps. aeruginosa-specific phage were present in sputum at concentrations ranging between 10^4 to 10^6 viable particles/ml with as many as 4 different phage strains isolated from a single individual. Of the 16 phage isolates, at least 12 different phage strains could be identified based on bacterial host specificity and electron microscopic morphology. It would appear that Ps. aeruginosa and its phage commonly coexist at the site of human bronchopulmonary infections, and most probably at all sites of Ps. aeruginosa infection, and be considered as possible factors influencing the pathogenicity of Ps. aeruginosa.

**1084** UNUSUAL LABORATORY FINDINGS IN ECHOVIRUS-11 MENINGITIS

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Sevenventyseventeen (77/26 mos old) range 2 wk-9 yr. 54% had CSF cell count >500/mm^3 and 44% had polymorphonuclears (PMNs) >25% of cell count. CSF sugar <40mg/dl in 2/3 pts. 41% had CSF protein >45mg/dl and 6% had >75mg/dl. Three patients (pts) had entirely normal CSF. In 86% peripheral WBC was >10x10^3/mm^3; only 2/3 had >5000/mm^3. Peripheral blood count >5000/mm^3. Four pts (3 mos old) had repeat CSF exams. All had >150 cells/mm^3 and the 2nd youngest (age 2 wk) still had >500 P after 1 and 3 days. CSF findings were compared with data from pts with bacterial meningitis (B). Cell count >500/mm^3, glucose >45mg/dl, and protein >75mg/dl were statistically associated with B. However, 14% of E-11 pts had at least one of these findings and 20% of pts had none of those findings. CSF P <75 was as frequent in E-11 pts as in B pts. Peripheral WBC >5000 or >15000/mm^3 and absolute band count >500/mm^3 were statistically associated with B but 39% of E-11 pts had one of these abnormalities. Certain CSF findings in our pts have not been reported for E-11 and are uncharacteristic of viral meningitis: 1) leukocyte response more characteristic of bacterial meningitis; CSF P <90%, persistence of CSF P beyond 24 hrs, peripheral band count >500, and 2) entirely normal CSF.

**1082** EFFECTS OF PERSISTENT MIDDLE EAR EFFUSION (PMEE) ON DEVELOPMENT OF SPEECH AND LANGUAGE (SAL).

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To determine effects of PMEE during the first 3 yrs. of life, we administered tests of S & L to 218 3 yo, white, English-speaking children with normal developmental histories. All had been followed prospectively since birth; we stratified according to duration of PMEE, age, type of health-care, and socio-economic status (SES). Below are selected results for children with PMEE (304 days) and those without PMEE (400 days) in a suburban, private practice (I) and an urban clinic (II).

| Test | T | 130+ | <30 | T | 130+ | <30 |
|------|----|------|-----|----|------|-----|
| TAPP | 106 | 110 | .95 | 116 | 115 | .85 |
| PSLS-AC | 121 | 135 | .004 | 116 | 115 | .5 |
| PSLS-VA | 113 | 130 | .006 | 115 | 112 | .75 |

Data suggest that PMEE early in life is associated with significant impairment of S & L; children from higher SES appear at greatest risk. This study does not show if such effects are permanent or transient.

**1083** DIFFUSION OF MOXALACTAM INTO CSF OF CHILDREN WITH BACTERIAL MENINGITIS.

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Moxalactam (MOX), a new once-a-lactam antibiotic, is active against an expanded spectrum of gram-negative organisms including Haemophilus influenzae. It has also been reported to diffuse into cerebrospinal fluid. We administered IV MOX to children (6 wks-4 yr) receiving conventional antimicrobial therapy for bacterial meningitis. Plasma and CSF specimens were collected 2 to 3 hours after a dose and assayed for MOX concentration by HPLC (capable of detecting 1 µg/ml of MOX). Eight patients received single doses of 15 or 25 mg/kg. In 11 determinations the plasma levels ranged between 4.7 and 29.4 µg/ml but MOX was detected in the CSF in only one instance. Eight patients received 50 mg/kg of MOX every 8 hours for 3 doses, and 5 patients the drug diffused into CSF. MOX was detectable in 3/5 of CSF specimens early in the course of illness (2nd or 3rd day) and averaged 15.7µg/l (2.3%) of plasma concentration. There was no correlation between the diffusion of MOX into CSF and the CSF white cell count, however MOX diffused to a greater extent in patients with protein content. In summary, MOX diffuses into CSF but such diffusion is unpredictable. Caution must be exercised in using MOX alone in the treatment of meningitis.

**1085** CORONAVIRUS-LIKE PARTICLES AND NEONATAL GASTROINTESTINAL DISEASE. Yvonne E. Vaucher, C. George Ray, Linda L. Himisch, Claire H. Payne, Donna J. Beck, Paula F. Low. University of Arizona, College of Medicine, Department of Pediatrics and Pathology, Tucson, Arizona.

Coronavirus-like particles (CVP) are associated with gastrointestinal (GI) symptoms (xa) in mammals, including man. We report an intensive care nursery (NICU) outbreak of GI xa associated with CVP, identified by electron microscopy, in the stools of affected infants. Immune aggregation of stool CVP occurred with sera of CVP positive (+) infants only. The prevalence of stool CVP, assayed by 8 NICU-wide surveys over 40 weeks, fell from 67% to less than 10%, paralleling prevalence changes in the community. Most infants were surveyed pre-meningitis. Overall, 36% (8 of 22) of all infants with CVP gastro-intestinal or intrapartum acquisition was suggested by the finding that 342 (11/32) of the CVP + infants were examined within 72 hours of birth. CVP + infants were more likely to have GI xa within 7 da of survey (p<.005), including water loss stools (p<.005), and the following xa persisting for more than 2 days: gastric retention (p<.001), bilious gastric aspirates (p<.001), and abdominal distension (p<.01) and gross or occult blood in the stool (p<.005). CVP + infants were also more likely to have multiple xa and have more gastrointestinal symptoms (p<.05) than CVP- infants. We conclude that stool Coronavirus-like particles are associated with clinically significant GI disease in the newborn.