919 THE EFFECT OF γ-INTERFERON ON THE PHAGOCYTOSIS AND KILLING OF PSEUDOMONAS AERUGINOSA BY HUMAN MACROPHAGES. Thomas B. Issekutz (Spon. by R.B. Goldbloom), Dalhousie University, Izaak Walton Killam Hospital for Children, Dept. of Pediatrics, Halifax, N.S., Canada.

Pseudomonas aeruginosa (P.a.) chronically colonizes the respiratory tract of patients with cystic fibrosis and causes much of the pulmonary damage and morbidity in this disease. Previous studies demonstrated that P.a. can suppress T lymphocyte function. Since γ-interferon (γ-IFN) produced by T cells enhances the microbicidal activity of macrophages (Macs) against some pathogens, suppression of T cells might limit Mac activation needed for optimal bactericidal activity against P.a. in CF. Our purpose was to examine the ability of human blood monocyte-derived Macs to bind, ingest and kill ^{3}H-P.a., and to determine the effect of γ-IFN on this process. P.a. grown in stationary, rotated and vigorously shaken broth cultures were tested since these conditions modify the surface of this bacterium and its phagocytosis by Macs. Fifty percent of rotary-grown P.a. were bound, 16% were ingested, and 35% were killed by the Macs in 3 hours. γ-IFN treatment did not significantly affect the first two parameters but increased the bacterial killing four-fold. P.a. grown in shaken cultures not only were bound and ingested less efficiently but survived and increased by 50% inside Macs. γ-IFN abrogated the resistance of these P.a. so that 47% were killed. One to 10 u/ml γ-IFN was sufficient to enhance Mac activity. The bactericidal activity was not H_2O_2 dependent but was reversed by phenylbutazone. It is suggested that the suppression of T cell γ-IFN production by P.a. may allow the survival of resistant P.a. inside Macs in CF patients.

920 HIV INFECTION IN HEMOPHILIAC CHILDREN. Janine M. Jason and Bruce L. Evatt, Centers For Disease Control, Atlanta, GA.

We compared: 1) children (<18 years old) who have hemophilia-AIDS with other children with AIDS and with adults who have hemophilia-AIDS and 2) asymptomatic HIV-infected hemophiliac children with asymptomatic HIV-infected hemophiliac adults. Children with hemophilia-AIDS were older than other children with AIDS (medians 13 and 1 years, respectively), but had similar incidences of Pneumocystis carinii pneumonia (PCP) (51% vs. 53%) and case-fatality ratios (57% vs. 61%). Children with hemophilia-AIDS had PCP significantly less often than did adults with hemophilia-AIDS, but both had similar case-fatality ratios (adults: 72% with PCP, 60% deceased). Significantly more hemophiliac children than adults were non white (30% vs. 14%), and more resided in New York State (19% vs. 9%, not significant). For hemophiliacs without AIDS, the immune effects of HIV infection on children did not differ meaningfully from those upon adults; these included significantly decreased T_{helper} lymphocyte numbers, significantly decreased T_{helper}-to-$T_{suppressor}$ lymphocyte ratios, and increased serum immunoglobulin levels. The immune effects of HIV on asymptomatic pediatric and adult hemophiliacs are similar, and AIDS occurring in older children, infected through factor products, is similar to perinatally acquired AIDS. The factors related to the major differences between hemophiliac children and hemophiliac adults with AIDS are currently unknown and warrant further investigation.

†921 S. EPIDERMIDIS SLIME EFFECTS ON NEUTROPHIL OXIDATIVE BURST AND ADHERENCE: EVIDENCE OF MEMBRANE AND RECEPTOR INTERACTIONS. George M Johnson[1], Warren E Regelmann[2], Ernest D Gray[1], Georg Peters[3] and Paul G Quie[2]. (Spons.-V. Schauf). Nass Cty Med Ctr, Dept of Peds, East Meadow, NY[1], Univ. of MN, Minneapolis[2], Hyg. Inst., Univ. of Cologne, W. Germany[3].

Many strains of S. epi isolated from foreign body infections produce a slime material, which may be related to pathogenicity. We demonstrated that the isolated material has effects on PMN function, including decreased chemotaxis. In situ production of slime interferes with phagocytic uptake of S. epi. To define further the interactions with PMNs, we report effects of slime on PMN adherence, superoxide response to F-Met-Leu-Phe (FMLP), phorbol myristate acetate (PMA) and opsonized-zymosam (OZ) and on iC3b receptor (CR3).

Preincubation of human PMN with slime enhanced adherence to plastic from 20 to 38% ($p < .001$). Simultaneous addition during adherence caused a slight increase to 26% ($p=.006$). Preincubation with slime altered PMN superoxide response to receptor mediated stimulants FMLP and OZ, but not to PMA. Response to FMLP increased with increasing doses of slime. PMN response to OZ was slightly diminished with high slime concentration (250 ug/ml) with a delay (5 min) in superoxide generation. When slime was present during OZ stimulation, the effect was greater (30% reduction at 250 ug/ml) and persistent. Measured using an anti-CR3 monoclonal antibody (OKM-1), slime incubation increased expression of CR3 on PMN by 13%. These findings suggest membrane and receptor effects of slime as a mechanism of altering PMN functions potentially decreasing host response to S. epidermidis.

922 RETROPHARYNGEAL ABSCESS (RPA) AND CELLULITIS RESPONSE TO THERAPY: A 10 YEAR EXPERIENCE. George M. Johnson, Carl A. Soranno, Dvorah Balsam and Victoria Schauf. SUNY Stony Brook Health Sci. Ctr., Nassau Cty. Med. Ctr., Depts. of Peds. and Radiology, E. Meadow, NY.

Pediatric patients with retropharyngeal infection were evaluated to define the disease and outcome in an era of potent antimicrobials and to compare to previous reports. Clinical course and radiographic findings for all pediatric cases (1976-1986) were studied retrospectively.

The 7 males and 3 females ranged from 10m to 19y (mean 6.6 y). Symptoms in the 10, present a mean of 3 d before admission, included feeding problems (7), sore throat (6), dysphagia (5), stiff neck (4), drooling (3) and voice changes (2). Signs in 10 patients included cervical swelling (10) unilateral in (7); fever > 38.5°C (7); oropharyngeal swelling (7); and stridor (1). Sedimentation rates averaged 58 mm/h in 5/5. Mean WBC was elevated in all 10, with 6 > 15,000/mm^3. Radiographic evidence of RPA was present in 7/9 lateral neck x-rays. Parenteral penicillinase resistant beta lactams resolved fever rapidly (only 1 beyond 2 d); clinical improvement occurred in 2 d. Spontaneously drainage occurred before or at initial evaluation without complications in 3; 1 required surgical drainage. S. aureus was isolated from nasopharynx or throat of 4, Group A streptococcus from 1. None were bacteremic. These patients differed from earlier reports in older age, infrequency of stridor, more frequent sore throat and dysphagia, and shorter duration of symptoms before evaluation. Improvement on antimicrobial therapy without drainage of an abscess in 6 patients may indicate cellulitis rather than abscess and/or may relate to early use of antimicrobials.

923 INFLUENZA B/ANN ARBOR: CLINICAL, LABORATORY, AND EPIDEMIOLOGIC DETECTION. James C King Jr, Connor J Haugh, William D Dupont, Peter F Wright, and Kathryn M Edwards. Vanderbilt University Medical Center, Department of Pediatrics, Nashville, Tennessee.

An epidemic of influenza B occurring between Jan--Mar 1986 allowed analysis of this illness in 325 participants in an efficacy trial of influenza A vaccines. Eighty-six individuals with respiratory illness were cultured. Ninety-one randomly selected pairs of sera bracketing the epidemic were assayed for seroresponse to influenza B. To determine the optimal serologic assay, 32 paired sera from people with culture proven influenza B were run using 3 assays (Figure).

	ELISA	HAI	Plaque Neutralization
# with ≥ 4-fold serologic rise	22/32 p=.02	13/32 p=.02	22/32

An ELISA using purified hemagglutinin-neuraminidase was the most sensitive although 31% of individuals with proven influenza B did not have an antibody rise. Thirty percent of the illnesses were influenza B by culture. Of those ill, 26% had a serologic rise; however, 48% of those with no recorded illness also had a serologic rise. The overall seroresponse rate was 42% by ELISA, which was equal in adults and children. A higher percent of culture proven influenza B illnesses were febrile (64% v. 32%, p=.004). Children (1-16 yrs) had more frequent influenza B culture positive illness than adults (17% v. 6%, p=.007). Efforts to identify influenza B illness during a winter season depends heavily on culture documentation. Neither clinical illness nor serologic assessment would fully characterize the epidemic. However, the latter determination emphasizes the high rate of apparently asymptomatic or minor illness with influenza B, particularly in adults.

●924 ENTERIC ADENOVIRUS AS A CAUSE OF OUTPATIENT DIARRHEA IN BALTIMORE CHILDREN. Karen L. Kotloff, Genevieve A. Losonsky, Nalini Singh-Naz, J. Glenn Morris, Jr., and Myron M. Levine. Center for Vaccine Development, Division of Infectious Diseases, Dept. of Pediatrics, U. of MD, Baltimore, MD. (Spon. by Felix P. Heald).

Enteric adenoviruses (EA) are a recently described cause of diarrhea in hospitalized children, but the incidence in outpatients with less severe diarrhea is not well documented. In a 1 year prospective study of the etiology of diarrhea in outpatients <2 yrs of age, we used a monclonal antibody-based ELISA to identify EA in 10 (4%) of 245 patients (in association with rotavirus in 2, Aeromonas in 1, and Cryptosporidium in 1) and in none of 157 matched controls (p=.03). An enteric pathogen was recovered from the stools of an additional 81 patients (rotavirus (50), rotavirus plus Aeromonas (1), Salmonella (9), Shigella (4), Shigella plus Aeromonas (1), Campylobacter (2), Yersinia (2), Yersinia plus Aeromonas (1), Aeromonas (10), and Giardia (1) and 26 controls (rotavirus (15), Campylobacter (1), Yersinia (1), and Aeromonas (9). The mean age of patients with EA was 6.4 months (range 1-18 months). Eight of the 10 patients (pts) with EA presented between Sept. and March with a syndrome of watery diarrhea (8 pts), vomiting (7 pts), and fever (5 pts); none had blood in the stool. Respiratory symptoms, which have been reported to be associated with EA, were present in 8 pts and 89 controls (p=.26). No pts developed dehydration or required hospitalization. EA appears to be an important cause of infantile diarrhea in Baltimore outpatients, second only to rotavirus in frequency.