1038 PATTERNS OF FUNGAL COLONIZATION IN VERY LOW BIRTHWEIGHT(VLBW)INFANTS. J.Baley, R.Kliegman, B.Boxerbaum, A.Fanaroff, C.W.R.U., D.Pediatr., Cleveland,OH.

We previously documented fungal sepsis in 4% of our VLBW (<1500g)infants, with a 79% mortality. To determine sources, timing and sites of acquisition in this high risk population, weekly oropharyngeal, rectal, groin and, if intubated, endotracheal(ET) Sabouraud cultures were obtained from 115 VLBW infants, plus equipment and staff. 4.3% of infants were colonized(col.)at birth, rising to 28% at 1wk, peaking at 39% ≥2wks. The sites at which col. were first detected varied with age at col: Initially

	No. 1st Col./Age	ET	Oral	Rectal	Groin
Birth	5	75%(3/4)	60%	80%	0%
1 wk.	18	0%(0/13)	17%	89%	28%
≥2 wks.	8	17%(1/6)	0%	25%	63%

GI/respiratory, later, skin. No fungi were cultured from 62 umbilical/central lines, 14 chest tubes, 157 breast milks, 20 personnel hands, 106 respiratory tubings or 183 isolettes. Candida albicans was the major fungus grown at birth and at 1wk(66.7%), but no new col. occurred >2wks. Infants col. later grew C.parapsilosis(37.5%)or a yeast unable to be grown for identification (37.5%). C.albicans(60%)and C.parapsilosis(40%)grew from 7.9% of ET aspirates, with 60% of them present from birth. 2 infants, 6.5% of col. infants, developed systemic C.albicans infections (1 meningitis, endophthalmitis; 1 peritonitis). We conclude that col. by C.albicans, the major pathogen in this population, occurs in the first wk of life, with both GI and respiratory contamination. Attempts to prevent systemic disease must take these data into account.

●1039 DTP VACCINE REACTIONS: EFFECT OF PRIOR REACTIONS ON RATE OF SUBSEQUENT REACTIONS. Larry J. Baraff, James D. Cherry. UCLA School of Medicine, UCLA Medical Center, Dept. of Pediatrics, Los Angeles, Ca.

It is generally presumed that children who have had reactions to DTP immunization will be more likely to have similar or more severe reactions upon subsequent immunization. To evaluate this contention, we studied the rates of selected reactions in 4,058 children in whom we had similar reaction data recorded for a proceeding DTP immunization. Only reactions occurring within 48 hours of immunization were included. There were 1,195 children in whom rectal temperatures were recorded at 3 and 6 hours after both immunizations. Of these, the rate of occurrence of fever (temp $\geq 38^{\circ}C$) after the second immunization was 38.5% in children who in previous immunization had temperatures $<38^{\circ}C$ and 52.8% in those who previously had temperatures $\geq 38^{\circ}C$ ($p<0.0001$). The rates of other reactions in 4,058 children as a function of previous reactions are as follows (no prior reaction/prior reaction): local redness, 28.5%/44.3% ($p<0.0001$); local swelling, 32.0%/45.9% ($p<0.0001$); local pain, 39.6%/49.0% ($p<0.0001$); drowsiness, 27.3%/36.7% ($p<0.0001$); fretfulness, 49.4%/57.3% ($p<0.0001$); vomiting, 4.9%/8.1% ($p<0.02$); eating less, 18.2%/22.7% ($p<0.004$); persistent screaming, 3.9%/7.2% ($p<0.02$).

These data strongly support the presumption that children who have had previous reactions following DTP immunization are more likely to have similar reactions upon subsequent immunization.

1040 COMPARATIVE TRIAL OF CEFTRIAXONE (CTX) VS. AMPICILLIN/CHLORAMPHENICOL (A/C) THERAPY (Rx) FOR BACTERIAL MENINGITIS IN CHILDREN. William J. Barson, Dwight A. Powell, Mario J. Marcon, Harold J. Cannon, Milap C. Nahata and Marcia A. Miller. The Ohio State University College of Medicine, Children's Hospital, Department of Pediatrics, Columbus.

Forty-five patients, 3 mo-5 yr in age, were randomly assigned Rx with CTX (23 pts) - loading dose of 75 mg/kg followed by 50 mg/kg q 12 hr or A/C (22 pts) - 50/25 mg/kg q 6 hr. The groups were comparable in age, sex, race, days and severity of illness before admission, etiology and admission CSF bacterial colony counts. The pathogens were H. flu type b (31 β-lactamase neg, 7 β-lactamase pos), S. pneumoniae (4), and N. meningitidis (3). Initial CSF colony counts ranged from $2.5x10^2$ - $1x10^{10}$ CFU/ml. In 39 pts, an LP was repeated 10.5-18 hrs after starting Rx: 13/20 CTX and 11/19 A/C pts had sterile cultures. Mean falls in the CSF bacterial colony counts were 6.4 and 6.2 $\log_{10}$ CFU/ml, respectively. CTX MICs for the H. flu isolates ranged from 0.0004-0.006 μg/ml. CTX CSF levels ranged from 1.0-8.0 μg/ml, representing a mean CSF penetration of 9.4% (range 1.2-24.5%) of the simultaneous serum concentration. Median CSF bactericidal titers were ≥1:1024 for CTX and 1:8 for A/C. There was no difference in the clinical course as to the time of defervescence, seizures or hearing loss. However, one relapse occurred in the CTX group. Adverse reactions in the CTX/A/C groups included neutropenia-2/5, eosinophilia-6/8, thrombocytosis-15/17, elevated SGOT/SGPT-2/2, hyperbilirubinemia-3/0, prolonged prothrombin time-1/1, rash-0/1 and diarrhea-11/4. CXT appears to be safe and as effective as A/C therapy for bacterial meningitis in children.

†1041 MUROLYTOGRAPHY:A NEW PEPTIDOGLYCAN ANALYSIS TECHNIQUE FOR S. AUREUS EPIDEMIOLOGY. Asher Barzilai, Alexander C. Hyatt and David S. Hodes. The Mt. Sinai School of Medicine, Dept. of Pediatrics, New York, New York.

We have demonstrated interstrain differences among clinical isolates of Staphylococcus aureus by analyzing the breakdown products of their peptidoglycans, a technique we call "murolytography". Interstrain differences were demonstrated both in products liberated by endogenous autolysins and in products released by exogenous murolytic enzymes. Complementary analyses of the products were accomplished by thin layer chromatography (TLC) and by sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) with the demonstration of strain-specific patterns ("murolytograms"). TLC murolytograms proved more convenient for the analysis of products released by endogenous autolysins while the higher molecular weight products generated by exogenous enzymes were better separated by SDS-PAGE techniques.

We have studied a number of clinical isolates of S. aureus including strains from four hospital outbreaks. Whereas strains collected at random showed a variety of different murolytograms when processed under identical conditions, strains isolated from the same epidemic showed identical murolytograms. Those epidemic strains sharing a murolytogram shared a common phage type and/or methicillin resistance as well. Murolytography is rapidly performed and avoids the delays associated with phage typing at external laboratories. It is of particular use to the hospital epidemiologist in the study of staphylococci, organisms whose antibiotograms are seldom distinctive.

1042 BLOOD AND INFLAMMATORY NEUTROPHIL FUNCTION FOLLOWING EXPERIMENTAL ENDOTOXEMIA. W.Douglas Biggar,Charmain G.Barker,Linda Crawford,Desmond Bohn, and Geraldine Kent. Dept.of Pediatrics, Intensive Care Unit and Research Inst. Hospital for Sick Children,University of Toronto, Canada.

The effects of intravenous (IV) endotoxin (LPS) (E.coli 0111B4) on neutrophil (PMN) function in vitro and in vivo in an experimental pig model was examined.Six wk. old pigs were anesthetized with halothane, intubated and ventilated. Intrapleural catheters (10Fr) were inserted. LPS (1.5 ug/kg I.V.) was given and 30 mins. later 5ml zymosan activated pig serum (ZAS) or normal saline as control were placed into the pleural space. Leukocyte migration in vivo was monitored by hourly pleural lavages. In non-LPS challenged pigs,PMN migration ($x10^6$)began by 1hr (40+10) and peaked at 4hr (220+50).Immature PMN (bands) were observed at 2hr(7+0.8) and peaked by 4hr (10+3). Monocytes migrated by 1hr (5+1) and peaked at 6hr (35+5). Following LPS, blood PMN and bands fell by 50%, after which the number of bands increased approximately 10 fold. Migration of PMN into the pleural space was similar in LPS and non-LPS treated pigs. However, in LPS treated pigs, the number of bands migrating was significantly greater and mono - cytes significantly less. In vitro, migration and bacterial killing by blood PMN was transiently reduced after LPS. Furthermore, the bactericidal capacity of pleural PMN was significantly greater than blood PMN in both LPS and non-LPS treated pigs. Our findings illustrate the importance of assessing PMN function both in vivo and in vitro when studying the biologic effects of LPS. (MRC Canada)

1043 PSEUDOMONAS CEPACIA BACTEREMIA IN CYSTIC FIBROSIS. Bernard Boxerbaum and Jeffrey D. Klinger. Case Western Reserve University, Rainbow Babies and Childrens Hospital, Dept. of Pediatrics, Cleveland.

Although pulmonary involvement caused by P. aeruginosa (PA) infections accounts for most of the morbidity associated with cystic fibrosis (CF), exacerbations characteristically lack the classic signs of infection. Recently, the incidence of other gram negative nonfermentors has increased, and approximately 17% of the CF patients at this center are colonized by P. cepacia (PC). We report here four female CF patients with previously only mild pulmonary involvement, who developed rapidly progressive fatal PC infection, characterized by spiking fever, leukocytosis, and bacteremia. These patients demonstrated a dramatic fulminant course with PC rather than the chronic deterioration more frequently associated with PA infections. In three of the patients the interval between colonization and death was 7 weeks or less. Colonization in one instance was probably hospital-associated. Treatment with aminoglycosides and ureidopenicillins was ineffective; ceftazidime offered temporary clinical improvement. Female CF patients, especially after puberty, appear at greater risk for PC infections than males. PC is usually an environmental commensal, but appears to have increased virulence in CF patients through as yet undefined mechanisms. Clinicians should be aware of PC as a new significant pathogen in CF. Investigations of altered host response, nosocomial spread, and selection due to antibiotic pressure should be addressed.