PERTUSSIS AMONG HOSPITALIZED INFANTS. Kathleen Kaya, Irvin Kaufman and James Connor. Dept. of Pediatrics, Univ. of Calif., San Diego and The Children's Hospital, San Diego, Calif.

SERUM ASSAY FOR CYTOPLASMIC CANDIDA ANTIGEN (CA) IN CHILDREN WITH SYSTEMIC (SC) OR MUCOSAL SURFACE (MS) CANDIDAL INFECTION. Thomas R. Kinney, Laura T. Gut-

38 sera of 10 pts with *Candida* sp infection proven by culture of MS, body fluid/cavity, or IV catheter were tested for CA by quantitative immunofluorescence assay. SC was suspected in all pts. Each had ≥ 1 elevated CA level, ($nl = 15 \pm 10$ ng/ml). 6 pts (Gp A) had SC (See Table). MS disease only occurred in 4 pts (Gp B); 3 had no SC at autopsy and 1 recovered without antifungal rx.

Pt.	Age(yr)	Diagnosis	Systemic Site	MS*	Peak	CA (ng/ml)
Gp 1	6	Myelodysplasia	IV cath	-	-	74
A 2	NB	Multiple anamol.	CSF	U	-	89
3	1	Cong. heart dis.	Abd. abscess	-	-	77
4	NB	Prematurity	Blood	-	-	142
5	NB	Multiple anamol.	Abd. abscess	R,S	-	275
6	19	ALL	Pleural fluid	U	-	107
Gp 7	16	AML	-	U,S	-	102
B 8	19	ALL	-	R,U,S	-	84
9	NB	Prematurity	-	R,U,S,	-	65
10	NB	ECHO viremia	-	R	-	273

In Gp A, *Candida* sp was not isolated from MS in 3 pts. All Gp B patients had MS colonized. The mean peak CA for each group was higher ($p < .05$) than nI. No difference was noted between mean peak CA Gp A (127 ± 76) and Gp B (131 ± 96). The data show MS colonization does not predict SC and that elevated CA occurs with both SC and MS disease.

IN VIVO SIGNIFICANCE OF PENICILLIN (PCN) TOLERANCE IN
EXPERIMENTAL ENTEROCOCCAL (E) ENDOCARDITIS (IE).
Kwang Sik Kim and Arnold S. Bayer (Spons. by B. F.

Although PCN tolerance has been proposed as one possible explanation of the poor response of some cases of IE, the in vivo significance of this phenomenon is not clear. Therefore, we examined the importance of tolerance in the rabbit model of aortic valve IE. Tolerant (T) and non-tolerant (NT) E strains were identified in vitro by MBC/MIC ratios, timed-killing assays, autolysis and a penicillin gradient-replicate plate method.

Group	Vegetation titers (log 10 cfu/gm) at therapy days:			
	0	3	6	10
T	9.3±0.1(6/6)	7.0±0.3(24/24)	6.0±0.4(23/24)	3.0±0.4(21/28)

NT 9.8±0.1(5/5) 6.2±0.2(20/20) 3.5±0.6(14/20) 0.3±0.2(2/20)
 †Number of vegetations positive for culture/number of vegetations sampled. αP<0.05 βP<0.005

This study suggests that PCN tolerance may be a significant determinant in the *in vivo* response of E to penicillin.

EFFICACY OF VARIOUS MONOCLONAL ANTIBODIES (Ab) AGAINST E.COLI (EC). Kwang-Sik Kim, Daisy Green, Alan Cross, Bennett Kaufman, Wendell Zollinger, Jerold Sadoff and

The morbidity and mortality associated with neonatal EC infections have remained significant despite advances in antimicrobial chemotherapy. To investigate the feasibility of immunotherapeutic approaches, we evaluated 3 different murine monoclonal IgM Ab against a K₁ EC strain in the newborn rat model: (1) Ab to group B meningococcal carbohydrate (K₁ Ab), (2) Ab to the LPS of the same K₁ EC (LPS Ab), and (3) Ab to lipid A. At 5 days of age, each litter was divided into 4 groups. Each group received intraperitoneally one of the above or murine IgM monoclonal Ab to the LPS of *P. aeruginosa* (control) in a dose of 50 μ l/10 gm and subcutaneously EC (LD₁₀₀). Blood and CSF specimens were obtained daily and mortality recorded for 5 days. Results are summarized as protective efficacy against death. K₁ and LPS Ab provided 100% protection neat and at 10^{-1} . All control animals died.

Ab	K_1	LPS	Lipid A	$K_1 10^{-3}$ +	$K_1 10^{-3}$ +	$K_1 10^{-3}$ +
Dilution	10^{-2}	10^{-3}	10^0	$LPS 10^{-2}$	$LPS 10^{-3}$	$Lipid A$
Efficacy(%)	80	40	50	100	75	25

These studies indicate that monoclonal Ab to K₁ polysaccharide and Ab to the LPS of EC are highly protective against K₁ EC and combinations of these two further enhance the efficacy.

INFECTION OF HUMAN MONONUCLEAR LEUKOCYTES WITH RES-
PIRATORY VIRUSES. L.R. Krilov, R.M. Hendry and K.
McIntosh. Children's Hospital, Div. Inf. Dis. Boston,

The interactions between respiratory viruses and mononuclear leukocytes in the natural course of infections with these agents is not completely understood. We have attempted to look at these cells directly for evidence of production of new antigen and/or infectious progeny. Peripheral blood mononuclear leukocytes (PBML) separated into adherent (M) and non-adherent (Ly) populations were infected with purified respiratory syncytial virus (RSV) or parainfluenza type 3 (PI3) at a MOI of 0.5-0.6. Since M's have been reported to become more macrophage-like over time in tissue culture, experiments were done infecting the M's 1, 2, 4 and 7 d after harvest. Cells were washed after 2 hrs of viral adsorption and every 24 hrs for the duration of these experiments. Antigen production was measured in supernatants by ELISA and in cells by indirect fluorescence (IF); infectious progeny were assayed on Hep-2 monolayers. With both viruses new antigen and infectious virus production were detected in M by 48 hrs and in Ly fractions by 96 hrs after infection. The youngest M's (day 1) were poor producers of new virus although the most striking syncytia formation with PI3 occurred in these cells. RSV caused no definite syncytia but did lead to cell rounding by 96 hrs in the M's; this was most marked in the cells infected 7 d after harvest. For both viruses 10-20% of M's were positive by IF in contrast to only 2-3% of Ly's. Further investigation of this model may be helpful in elucidating aspects of the pathophysiology of infection with these agents.

EFFICACY OF ENZYME IMMUNOASSAY (EIA) FOR DETECTION
OF CHLAMYDIA TRACHOMATIS (C.t.) INFECTION. M.L.
Kumar, J. Anglin, B. Paul, D. Krowchuk, B. Brown

The availability of a low cost, rapid method to detect C.t. antigen would encourage diagnostic testing for this important genital pathogen. We compared the efficacy of C.t. EIA to tissue culture isolation in 95 sexually active female adolescents. An endocervical swab specimen was tested for C.t. antigen and a second swab processed for culture in cycloheximide-treated McCoy cells using both iodine and a fluorescein-conjugated C.t. monoclonal antibody (FA) for detection of chlamydial inclusions. 24 subjects (25%) were C.t. culture (+). 23 specimens were positive by both iodine and FA; 1 was (+) by FA only. C.t. (+) and (-) subjects did not differ in regards to presence of symptoms or signs of genital tract infection. 18 of the 24 culture (+) subjects were EIA (+) (sensitivity 75%). C.t. inclusion counts in 4 of the 6 culture (+) EIA (-) specimens were low. 69 of 71 C.t. culture (-) specimens were EIA (-) (specificity 97%). In view of the high prevalence of C.t. in our population and its non-specific presentation, diagnostic testing for this pathogen is essential. In our study, EIA performed well as a diagnostic test with a (+) predictive value of 90% and a (-) predictive value of 92%. Potentially, EIA offers a cost-effective rapid screen which could expand testing of groups at high risk for C.t. infection.