1045 ENDEMIC AND EPIDEMIC KAWASAKI SYNDROME. M.E. Melish, R.M. Hicks, A.G. Dean, N.J. Marchette, U. of Hawaii School of Medicine, Dept. of Pediatrics, Honolulu.

Kawasaki Syndrome is endemic in Hawaii with steadily increasing yearly incidence and a total of 132 cases studied prospectively: 20% carditis, 17% coronary aneurysms, 33% arthritis. Bacterial cultures from blood (82), nose/throat (76), eyes (12), stool (60), urine (84), vagina (10), and CSF (48) have been sterile or → normal flora. Staphylococci found only in 21% throat, 1% stool, no focal infections. Leptospiral studies - blood, urine negative 43, 0/24 serologic response. Viral and chlamydial isolations 74 patients → 4 isolates: RSV-like, CMV, adenovirus, coxsakie B. Electron microscopy of stool, urine, serum, throat washings ↛ infectious particles even when stained with convalescent serum. Paired sera ↛ seroconversion to legionella, CMV, EB, influenza, parainfluenza, rubeola, rubella, varicella, mycoplasma, pneumoniae, chlamydia, or rickettsiae. CF antibody rose to adenovirus in 6/52 and neutralizing antibody to RSV-like virus developed in 4/40. IgE rose, peaked in week II & III, fell in 27/34. Immune complexes found in weeks II & III in patients with carditis/arthritis. Epidemiology: Male:female 1.6:1. Peak age 6 mo-2 years (range 6 weeks-8 years). Sharply defined epidemics of 32 and 25 cases noted in February-June 1978, October-May 1979-80. Ethnic predilection: Japanese overrepresentation; Caucasians, Filipinos underrepresented. Secondary cases: 2/97 exposed siblings, 0/~400 day care contacts. URI within 1 mo. onset: 62% cases vs 57% controls. Clinical, immunologic, epidemiologic features suggest acute infectious trigger to immunologically mediated generalized vasculitis.

1046 INNATE, INTERFERON (IFN) MEDIATED, CELLULAR RESISTANCE TO MOUSE CYTOMEGALOVIRUS (MCMV) DEMONSTRATED IN EMBRYO FIBROBLAST CULTURES (MECC). Donald N. Medearis, Jr., Thomas A. Kelly, Mass. General Hospital, Children's Service, Boston

Our goal was to help define host resistance to MCMV. MCMV killing of CBA, C3H, BALB/c and C57B16 weanlings was compared to MCMV multiplication in secondary MECC prepared from these mouse strains. We know that others have not found differences in MECC response to MCMV, and differences we saw were small. A 10% w/v salivary gland homogenate harvested from CD-1 weanling mice 3 wks after IP inoculation was utilized as MCMV. In a representative experiment 10^6 PFU MCMV IP killed none of the CBA and C3H mice, but 100% of BALB/c and 40% of C57's. The number (av. of 10 plates) and size (av. of 50) of plaques produced on the various MECC were: CBA 77 plaques, av. size 0.3 mm; C3H 142, 0.3; C57B16 116, 0.5; BALB/c 150, 0.6. Several experiments comparing only CBA and BALB/c mice and MECC (the most and least resistant in vivo and in vitro) confirmed these results. MCMV growth was more (5 fold) in BALB/c than in CBA MECC and cytopathology was somewhat greater. The sensitivity of CBA and BALB/c MECC to IFN and an IFN inducer was then determined. IFN (Cal Biochem) reduced MCMV growth slightly (3-10 fold) more in CBA than in BALB/c MECC. When Poly(I)·Poly(C) (P.L. Biochemicals) 10ug/dish was used to induce IFN, MCMV growth was reduced much more in CBA than in BALB/c MECC: 6 d post-inoc of 100 PFU, BALB/c had 55 x 10^3 PFU/ml and CBA 76 x 10^1. These results indicate that resistance to MCMV is conferred in part by an innate, probably genetically determined, non-immune cellular resistance which can be demonstrated by the capacity of fibroblast cultures to respond to IFN and an IFN inducer. (Supported by USPHS grant no. NS14763)

●1047 RISK OF PERINATAL ECHOVIRUS INFECTION DURING A COMMUNITY OUTBREAK. John F. Modlin and B. Frank Polk, Children's Hospital Medical Center and Brigham and Women's Hospital, Harvard Medical School, Boston, MA.

During a community outbreak of enterovirus infection, 7 of 194 (3.6%) pregnant women were found to be excreting a prime strain of echovirus 11 at term. Each of the 7 virus positive women possessed serum neutralizing echovirus 11 antibody at delivery in titers ranging from 1:20 to 1:320, and the cord sera of the 7 infants born to these mothers also had antibody in titers of 1:10 to 1:640. The 7 infants of these women did not become ill, but 4 shed virus from the respiratory and/or gastrointestinal tract by three days of age. None of the infants of virus negative mothers cultured at hospital discharge (151 infants), or at two weeks of age (135 infants), became infected. In comparison, a previously reported group of 4 infants who died of generalized infection due to the same strain of echovirus 11 did not have detectable cord antibody.

We conclude that passively acquired, transplacental antibody prevents severe, systemic echovirus disease, but does not prevent mucosal infection of the perinatally infected infant. Our experience also indicates that infants born to mothers who become infected with an enterovirus within the last week of pregnancy are at risk of serious perinatal disease.

1048 RAPID VIRAL DIAGNOSIS IN AN OUTPATIENT LABORATORY. M.D. Murphy and G. Macias (Spon. by P. Brunell), UTHSC, Department of Pediatrics, San Antonio, Texas.

Making a specific viral diagnosis is limited by the time, expense and expertise required. Recent developments in the area of rapid viral diagnosis, Enzyme Linked Immuno Sorbent Assay (ELISA), have surmounted these difficulties. ELISA requires no expensive equipment and provides an answer in hours. In research laboratories the specificity and sensitivity of ELISA in identification of Rotavirus (RV) has been demonstrated. Studies have shown that over 50% of children hospitalized with dehydration from diarrhea in the winter excrete rotavirus while the prevalence of rotavirus in ambulatory patients with diarrhea is less than 15%. Therefore, an outpatient with diarrhea and excreting rotavirus is at high risk for dehydration.

We are evaluating the applicability of ELISA in a pediatric outpatient (POP) lab which routinely performs limited office procedures. A laboratory technician (MLT) performed all procedures. To test the ability of an MLT to accurately perform ELISA for RV, stool samples known to be (+) or (-) for RV by EM and ELISA, were blindly submitted with other stool specimens to the laboratory. The ELISA procedure was performed on 87 specimens: 69 clinical specimens and 18 "unknown" specimens. There were 13 positive clinical samples and 16 of the 18 unknowns were correctly interpreted. The entire procedure requires 6 hr/45 min. Actual MLT time was 1 hr/45 min. Rapid Viral Diagnosis could become an inexpensive available technique for outpatient diagnosis. Rotavirus ELISA could be useful in identifying children at high risk for dehydration.

1049 REACTOGENICITY AND IMMUNOGENICITY OF PERTUSSIS VACCINE COMPONENTS. M.D.Murphy, J.Rasnack, M.Deitch, H. Dickson, P.Brunell. Univ. of Texas Health Science Center, San Antonio, Texas. Dept. of Pediatrics.

A trial was designed to determine the antigen and adjuvant composition for pertussis vaccine which would produce the least reactogenicity and the best antibody response (ABR). DPT preparations containing fluid (F) or whole cell (W) pertussis antigen and either alum (U) or $AlPO_4$ (P) adjuvant were compared. Serologic data were collected on 42 patients; reactogenicity was assessed following 263 doses.

Although whole cell antigen produced a greater ABR it also resulted in increased febrile responses. Fever tended to be greater with increasing number of immunizations.

Group	Adjuvant	Antigen	Geometric Mean titer	% w/temp ≥101 Dose 1	Dose 2	Dose 3
A	Alp	Fluid	99	11	14	23
B	Alum	Fluid	152	3	15	29
C	Alum	Whole	256	15	32	53
D	Alp	Whole	181	40	42	33

After the third dose local reactions were most frequent with the presently used vaccine (WP). This group also used Tylenol significantly more.

Based on these data consideration should be given to a new formulation for the pertussis component of DPT.

1050 SIGNIFICANCE OF CSF NEUTROPHILS IN SAMPLES PROCESSED BY CYTOCENTRIFUGATION. Shehla H. Naqvi, Lisa M. Dunkle, Shahida Naseer, Charles Barth (Spon. by Thomas Aceto, Jr.). St. Louis University School of Medicine, Cardinal Glennon Memorial Hospital for Children, Department of Pediatrics, St. Louis, Missouri.

Cytocentrifugation has been demonstrated recently to allow improved assessment of cellular morphology in spinal fluid samples. With this technique neutrophils have been demonstrated frequently in CSF samples not apparently infected. Because neutrophils in CSF generally are considered indicative of inflammation we reviewed the charts of 88 previously healthy infants and children evaluated for meningitis whose CSF contained ≤ 10 WBC per mm^3. None had received prior therapy with antibiotics. 36% of CSF samples contained neutrophils regardless of whether the total WBC's were ≤ 5 or 6-10 per mm^3. Mean glucose and protein levels were 59 and 45 mg/dl respectively. All CSF bacterial cultures were sterile. Nineteen CSF samples submitted for viral cultures were negative. Peripheral blood cultures yielded bacterial pathogens in five cases. ECHO 11 was isolated from three patients. Seven of 88 patients had otitis media. The presence of neutrophils in CSF correlated significantly only with temperature > 102° and peripheral WBC count > 15,000 per mm^3. Presence of bacteremia may reach significance with larger numbers. We conclude that CSF neutrophils are not necessarily indicative of CSF infection when the total CSF WBC count is ≤ 10 per mm^3. Normal values are needed for differential counts in CSF processed by cytocentrifugation.