483 ENDEMIC INTESTINAL PROTOZOAN INFECTION IN A CALIFORNIA SEMI-COMMUNAL GROUP. V.Millet, M.Spencer, M.Chapin, M.Stewart (Spon. by J.Cherry), UCLA School Medicine, Dept. of Pediatrics, Los Angeles, CA

Recently we had the opportunity to study intestinal protozoan infection in children in a semi-communal religious group in Los Angeles. The community is predominantly white, lower middle class, each family lives in a separate apartment, but daily activities are communal. Children ages 2 to 5 attend a group day care facility & older children are divided into small closed-school settings.

This prospective study was conducted from February to June 1980 to determine the frequency & distribution of parasites in the commune's children & their adult contacts. After completing a demographic, travel & medical questionnaire, the parent was requested to collect three stool specimens for ova & parasites in polyvinyl alcohol (PVA) preservative. Stools were processed utilizing formalin-ether sedimentation concentration technique & trichrome-stained smear. Of 273 enrolled subjects, 220 completed the study (136 children & 84 adults). One hundred fifty-three (69%) of the group (74% of children, 51% of adults) had parasites recovered which included Giardia lamblia, Dientamoeba fragilis & Entamoeba histolytica. Six of 7 infants under two years had no parasite recovered. G.lamblia occurred in preschool children; D.fragilis was more frequent in schoolage children. Most infected adults had D.fragilis (72%) recovered. In 30 (60%) of the 50 infected families, two or more members had similar pathogens. Pathogenic intestinal protozoan infection was common in this communal group & may well present a public health problem.

484 CLINICAL DISAGREEMENT IN THE ASSESSMENT OF BPD IN A CLINICAL TRIAL. Ruth A. Milner, Barry D. Fletcher, Gerald J. Gill, John L. Watts, Alvin Zipursky, Depts. of Pediatrics, Radiology, Epidemiology, McMaster University Medical Centre, Hamilton, ON, and University Hospitals, Cleveland, OH.

Disagreement between clinicians in interpreting clinical signs is ubiquitous in medicine. In the interpretation of endpoints in clinical trials, this can be crucial. A randomised clinical trial to test the effectiveness of Vitamin E in LBW babies in the prevention of BPD required the assessment of BPD to be as objective as possible. Three radiologists agreed to interpret the X-rays, independently and blindly. One was a pediatric radiologist; one, a general radiologist, regularly reviews neonatal films; and one was interested in pulmonary disease. The criteria used were those of Northway. X-rays, taken at days 1, 10, 21, 28 and 42 were coded and read. The results of the first batch of 268 films indicated that there was complete agreement in 28% (usually the normal films); agreement between 2 of the 3 in 36% and no agreement in 35%. Possible sources of disagreement included the quality of the films and the comorbidity of the babies as well as reviewing out of context. The decoded films were placed back in order. Agreement was reached on 35% of babies; two agreed on 17% and all 3 agreed on a further 13% but not on the severity of the disease. 35% still had questionable conclusions. Strategies to resolve these differences included adding the complete series of baby films; checking autopsy reports if insufficient films were available and bringing the 3 radiologists together with a neonatologist to resolve interpretative differences.

485 GASTROENTERITIS CAUSED BY A PROBABLE VIRAL AGENT PERSISTING IN IODINATED WATER AT A SUMMER CAMP. John M. Neff, William E. Woodward, Lorne K. Garrettson, Nalini Singh, Joseph T. Harman, Harry B. Greenberg, Dept. of Peds., Balto. City Hosp., Dept. of Med., Univ. of Texas, Labs of Infect. Dis., NIAID, Dept. of Peds., Med. Col. of Va., Md. St. Dept. of Health. An epidemic of gastroenteritis occurred in a childrens' camp in Maryland in 1980. The non-recurring illness was characterized by vomiting and diarrhea lasting 1-2 days. With each of the groups entering camp for each of the three two week sessions, the attack rate increased from 58% to 62% to 77%, and the incubation period decreased from 5.1 to 2.5 to 1.3 days. Epidemologic studies by the camp doctors (JN, WW, LG) revealed that only those who drank water containing beverages became ill and that the incubation period was inversely related to the amount of water consumed. A survey response from 70 families visiting camp revealed an attack rate of 64% (27/42) in family members who drank water containing beverages in contrast to 0.8% (1/127) in those who did not and a secondary attack rate in family contacts of 3% (1/32). Water for the camp was pumped from a well and iodinated and monitored frequently at a level of 0.7 to 1.0 ppm. Samples of the iodinated water were negative for bacteria and for heavy metals. Paired serology in 13 camp members revealed a 4 fold rise to the Norwalk agent in 2. Attempts at virus identification are continuing. Epidemiologic and serologic studies suggest an agent, possibly a distant relation to the Norwalk virus, and the agent seems to be resistant to iodination. The epidemic points out limitations of current water purification systems.

486 REFERRAL RATES AND NEONATAL OUTCOME AMONG COMMUNITY HOSPITAL BORN INFANTS IN A STATEWIDE PERINATAL INTENSIVE CARE NETWORK. R.C. Parkinson, B. Garland, D.Z. Myerberg, W.A. Neal. West Virginia University Medical Center, Dept. of Pediatrics, Morgantown, West Virginia.

Statistical analysis of birthweight distribution and weight specific neonatal mortality rates (NMR) revealed that 62% of a 31% reduction in NMR between 1974 and 1978 in WV was due to improved survival of < 2500 gm infants. These findings suggest that the observed reduction in NMR is due to increased access to neonatal intensive care rather than the improved socio-economic factors reflected in birthweight distribution. To further test this hypothesis we surmised that low birthweight infants born in hospitals with higher referral rates would experience lower NMR than infants born in hospitals with low referral rates.

Data sources include infant referral data to all perinatal centers, and matched birth and death certificates. All 2,194 infants weighing between 1001-2500 gms born in WV hospitals in 1977 and 1978 were selected for special study.

Analysis confirms that hospitals with higher referral rates have lower NMR among 1001-2500 gm infants. 16.4 deaths per 1,000 infants born in hospitals which referred below the mean may be attributed to the infants having been born in this group. When hospitals were grouped by number of specialists associated it was learned that secondary hospitals referred at a rate 50% below that of primary hospitals and NMR in secondary hospitals was 13% higher than in primary hospitals.

487 IMPROVED PERINATAL OUTCOME IN A TERTIARY CARE HOSPITAL: NEONATAL MORTALITY VERSUS VERY LOW BIRTH WEIGHT. Joseph Philips; Lora Tamburello; Celia Satterwhite; and George Cassady. University of Alabama, Dept. of Pediatrics, Div. of Perinatal Medicine, Birmingham, Ala. 35294.

The very low birth weight rate (infants ≤ 1500gm/1000 births) has increased linearly at our institution ($r = .84$) from 35 to 55 from 1974 to 1979. The proportion of VLBW infants weighing ≤ 1000gm remained unchanged during this period and averaged 31%. However, the number of extreme low birth weight (≤ 700gm) infants increased dramatically from a mean of 3.8% of very low birth weight infants for 1974-1977 to 10% in 1978 and 1979 ($p < .02$). In spite of this increase in very tiny infants, the neonatal mortality rate fell progressively from 25.8 deaths/thousand births in 1974 to 17.9 in 1979 ($r = -.76$). Neonatal mortality has been shown to be closely linked with the very low birth weight rate, both within one institution and in the United States, as well as from country to country. The ratio of neonatal mortality rate to very low birth weight rate has been suggested to be a measure of quality of care.* This ratio declined linearly ($r = -.97$) in our perinatal service from 0.74 in 1974 to 0.32 in 1979. This ratio was 1.09 for the USA in 1975. Thus, a vast improvement in quality of care appears to have occurred in our hospital in the six year span, despite an increased very low birth weight rate, an increased proportion of whom have been ≤ 700g in birthweight.

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● **488** EVALUATION OF PRIMARY CESAREAN SECTION (1°C/S) RATE. Jeffrey J. Pomerance and Sharyn J. Brown. UCLA School of Medicine, Cedars-Sinai Medical Center (CSMC), Department of Pediatrics, Los Angeles, California.

At CSMC, in 1979 there were 4798 deliveries of women at risk for 1°C/S. The 1°C/S rate was analyzed to determine the variation in indication specific C/S rates in the study group. The study group consisted of 38 obstetricians in solo practice, and 18 groups representing 51 obstetricians (2-8/group). Groups were considered as single entities. Groups or individuals delivering fewer than 16 patients/year were not evaluated.

The indications for 1°C/S were "failure to progress/cephalopelvic disproportion" (FTP/CPD), malpresentation, fetal distress (FD), genital herpes, and miscellaneous. The 1°C/S rate varied from 3-50% ($\bar{x}$=14%). Eight individuals or groups had rates significantly above the mean ($p<0.05$); 4 of these at the $p<0.01$ level. Only 1 group had a rate significantly below the mean ($p<0.01$).

FTP/CPD was considered the indication for 1°C/S in 8% of patients (range:0-40%). Five individuals had rates significantly above the mean ($p<0.05$), 4 of these at the $p<0.01$ level. Two groups had rates significantly below the mean ($p<0.05$), 1 of these at the $p<0.01$ level. FD was the indication for 1°C/S in 1.3% of patients. Only 1 physician had a rate significantly above this ($p<0.01$).

The data suggests there are wide variations amongst obstetricians in their 1°C/S rates which may reflect differences in patient population or differences in patient management. This is an area which may be appropriate for peer review.