

529

ARE WE PRODUCING MORE LONG TERM PATIENTS IN NEONATAL INTENSIVE CARE? William H. Edwards, George A. Little, Judith E. Frank (Spon. by Robert Klein). Dartmouth

Medical School Department of Maternal and Child Health, Hanover, New Hampshire.

There is concern that neonatal intensive care practice has resulted in an increased census of chronically ill infants. These infants may limit available acute tertiary care beds and cause staffing problems.

We used our computer database to analyze epidemiologic characteristics of ICN admissions from 1976 through 1983. With well-established regionalized perinatal care, admission characteristics have remained relatively constant: 344 ± 45(S.D.) admissions/year, 54.2 ± 6.3% infant referrals, 31.8 ± 3.2% maternal-fetal referrals. There was no trend in the yearly distribution of admissions by birth weight or gestational age. There was no trend to increasing average length of stay (LOS) by year (14.7 days, range 13.4-17.1). Mortality and discharges to community hospitals have varied only slightly (10.7 ± 2.4%, 37.7 ± 3.2% respectively). Discharges directly home decreased from 44.6% to 22.8% while discharges to the pediatric ward increased 3.6% to 11.3% (1976 vs. 1983).

Infants with LOS >28 days or to >38 weeks corrected gestational age accounted for 6.1 ± 1.7% of admissions and 33 ± 9.8% of hospital days. Infants with LOS >12 weeks accounted for 2.3 ± 1.1% and 19.4 ± 10.1% of admissions and hospital days, respectively. While the percentages of hospital days represented by long term infants in 1983 were at the upper end of the '76-'83 range, there was no trend even if pediatric ward LOS was included. We cannot show an increase in long term babies.

530

BREAST-FEEDING AND PREMATURE INFANTS: INCIDENCE AND SUCCESS. Richard A. Ehrenkrantz, Barbara A. Ackerman, JoAnne Mezger, Michael B. Bracken (Spon. by I. Gross)

Yale Univ Sch of Med, Depts of Ped and Epidem, New Haven, CT.

The incidence and success of those women who deliver AGA premature infants with BW < 2000 gm and who wish to breast-feed (BF) their infants has been studied with a structured interview about infant feeding that was administered to 200 (77%) of 260 consecutive, eligible women within 7 days of delivery and then with a follow-up interview given only to breast-feeders after lactation ceased. 111 (55.5%) of these women indicated they wished to BF, compared to 84 (47%) who chose to formula-feed and 5 (2.5%) who were undecided at the initial interview. 72 follow-up interviews have been completed. 54 (75%) of these women maintained lactation during their infant's hospitalization, were breast-feeding at their infant's discharge, and continued to BF for 20.7 ± 2.0 wks (M±SE) after discharge. This group was composed of 7 of the 12 women (58%) who had infants with BW < 1000 gm, 12 of the 17 women (71%) who had infants with BW between 1001-1500 gm, and 35 of the 43 women (81%) who had infants with BW between 1501-2000 gm. Also that group was composed of 28 of the 32 women (87.5%) who had infants that were hospitalized for <30 d and 26 of the 40 women (65%) who had infants hospitalized for > 30 d. Of the other 18 women, 9 (12.5%) maintained lactation for some of their infant's hospitalization only (4.0 ± 2.5 wks), and 9 (12.5%) failed to establish effective lactation. Therefore, in a supportive environment, lactation and breast-feeding can be successfully maintained in mothers of premature infants during and after the infant's hospitalization.

† 531

PREDICTIVE VALUE OF C-REACTIVE PROTEIN (C-RP) AND LIMULUS LYSATE ASSAY (LLA) IN EVALUATION OF CHILDHOOD BACTERIAL MENINGITIS. Joseph Eiden,

E. Richard Moxon, Robert Yolken, Dept. Peds., Johns Hopkins Univ. Sch. of Med., Baltimore, MD.

Bacterial meningitis is often difficult to distinguish from viral meningitis at the time a patient is first examined. LLA for detection of gram neg. bacterial endotoxin and C-RP have been proposed as useful adjuncts for the rapid detection of bacterial meningitis. However, reports conflict as to the value of these tests. We evaluated both assays during a prospective study of meningitis from 11/82 to 9/84. 246 patients underwent lumbar puncture for suspected meningitis. The table summarizes the results from patients whose specimens grew pathogenic bacteria. Also included were all patients with 10 WBC/mm<sup>3</sup> of CSF with negative bacterial cultures and no prior antibiotics.

ASSAY	C-RP	LLA	GRAM STAIN
Sensitivity	14/17 (82%)	6/6 (100%)	11/16 (68%)
Specificity	23/24 (96%)	23/23 (100%)	24/24 (100%)
Predictive Value of + Test	14/15 (93%)	11/11 (100%)	11/11 (100%)
Predictive Value of - Test	23/26 (88%)	23/23 (100%)	24/29 (83%)

Predictive value of LLA was 100% and should be studied further. Predictive value of a negative C-RP test was 88%, but all patients with + bacterial CSF cultures were accurately predicted by a combination of test results (C-RP, protein, glucose, WBC, gram stain).

● 532

SERUM COTININE MEASURES PASSIVE SMOKING IN YOUNG CHILDREN. Ruth A. Etzel, Edward N.

Pattishall, Mary L. Abernathy, Nancy J. Haley, Albert M. Collier and Frederick W. Henderson, University of North Carolina at Chapel Hill, Department of Pediatrics, Chapel Hill, North Carolina and American Health Foundation, Valhalla, New York.

Investigating the health consequences of passive smoking would be aided by a quantitative measure of tobacco smoke exposure. We studied whether cotinine, the major metabolite of nicotine, could be detected by radioimmunoassay in the serum of young children and used as a measure of household exposure to tobacco smoke. Our subjects were 46 healthy children, aged 7 months to 5 years, in a group day care center. After a serum sample was obtained from each child, a telephone smoking questionnaire was administered to the child's parents. Serum cotinine proved to be a valid indicator of passive smoking in these children. Median cotinine concentration was 4 ng/ml (range 0 to 11 ng/ml) in exposed children and 0 ng/ml (range 0 to 4 ng/ml) in unexposed children (p<.0001). Serum cotinine correlated well with the reported total number of cigarettes consumed daily in each child's home (r=.69, p=.0004). Serum cotinine concentration can be used as a measure of exposure in studies of the long term health consequences of tobacco smoke inhalation in early life.

533

THE EFFECT OF CHRONIC ORAL SODIUM LOADING IN BLACKS

Bonita Falkner, Solomon Katz, Barbara Thanki. Dept. of Pediatrics, Hahnemann University and Krogman Growth Center, Philadelphia, PA.

The effect of chronic oral sodium loading on blood pressure was studied in a representative black population ranging in age 18-22 years. All subjects (N=36) took 10 Gms/day NaCl in addition to their usual diet for 14 days. Overnight urines for Na<sup>+</sup>, K<sup>+</sup>, and creatinine were obtained two days prior to salt and on days 6, 7, 13 and 14. Casual seated BP and weight were obtained on days 0, 7 and 14. Mean arterial pressure (MAP) was calculated. A MAP increase of >6 mmHg considered a sodium sensitive pressure response (SS); MAP changes of <6 was considered sodium insensitive (SI). Urine Na excretion and Na:K ratio confirmed the high Na intake (>1.5 increase). 22 subjects (10 male, 12 female) were SI (x change= 1.45mmHg + 5.6). Weight change in the SI group was -2.7 to 2.4 kg (x = 0.2 kg). Weight increased in 8, decreased in 9, with no change in 5. 14 subjects (9 M, 5 F) were SS (x change= 11.2 mmHg + 3.3). Weight change was -1.9 to 3.3 kg (x 0.62kg). Weight increased in 8 and decreased or did not change in 6. No difference was present between groups in preload pressure (SS 117/75mmHg; SI 119/75). The diastolic BP was greater postload in the SS group ( (SS) 86 vs (SI) 75mmHg, p<.01). The results indicate different response patterns under conditions of prolonged chronic sodium load. Degrees of sodium sensitivity may be identified in a young normotensive population. The significant weight reduction following chronic sodium load in some salt sensitive subjects suggests the renal response of pressure diuresis.

† 534

BIRTH WT DISCREPANCY RECORDINGS IN NEWBORN CHARTS & BIRTH CERTIFICATE TAPES. A POPULATION STUDY BY HOSPITAL LEVEL OF CARE & HOSPITAL OWNERSHIP IN NEWBORNS <2500 GM. Angelo Ferrara, Barry Levinson, Yucel Atakent. New York

University School of Medicine, Department of Pediatrics, New York, N.Y.

Hospital records & birth tapes of all transported patients & a matched random sample of non-transported, totalling 3,929 neonates in N.Y.C. in 1979 were reviewed. 48 of 52 maternity hospitals were reviewed. Hospitals were divided into 6 categories, 3 by levels of care (I,II,III), 3 based on # of deliveries & resources. Finally, each of the 6 categories differed by hospital ownership (proprietary, voluntary, municipal). Data were collected on the incidence & size of the discrepancy by hospital & BW categories.  $\chi^2$ , paired t-testing, Mantel Haenszel (M-H) were used for analysis. Results: 1) only 4 hospitals showed a signif. diff. between mean weights from charts & birth tapes. 2) among voluntary hospitals across 6 hospital categories there was a signif. diff. in the incidence of % correct between the tapes & chart records:  $\chi^2 = 92.02$  DF = 5, P<.005. 3) voluntary hospitals in IA had greater incidence of large magnitude weight diff. (<100 Gm) compared to municipals ( $\chi^2 = 6.4$  P <.025). 4) in hospital specific groups across 4 weight categories (<1000, 1001-1500, 1501-2000 & 2001-2500), except for IIA ( $\chi^2 = 18.3$  P<.005) there was no signif. diff. in the % correct within the remaining hospital categories. 5) in hospital specific categories, voluntaries have a signif. higher incidence of % correct as compared to municipals:  $\chi^2$  for M-H: 57.8, P<.005.