

**501** INCIDENCE OF MINIMAL LESION NEPHROSIS IN EASTERN KENTUCKY. Robert J. Wyatt, Martin B. Marx, Melody Kazee and Nancy H. Holland. Departments of Pediatrics and Family Practice, University of Kentucky College of Medicine, Lexington, Kentucky

The etiology of minimal lesion nephrosis (MLN), the most common cause of nephrotic syndrome in children, is unknown. The only incidence data on MLN have been extrapolated from population surveys of nephrotic syndrome in childhood performed over 20 years ago. These studies estimated the incidence of MLN at 1.5 cases per year per 100,000 children, ages 1-9. New cases of MLN occurring during the years 1970-1979 were identified by survey of area pediatricians and by medical record review of 9 hospitals in the area most likely to care for children. Total population of the study area in 1974 was 1.1 million with 187,000 children, ages 1-9. Thirty-five cases of MLN were identified with onset after first and before tenth birthday. Criteria for identification were initial response to daily steroids (33 pts) with complete clearing of proteinuria in <1 month or initial non-response (2 pts) with both renal biopsy and subsequent clinical course compatible with MLN. Incidence of MLN in the study area was 1.9 cases per year per 100,000 children, ages 1-9. However, in one rural 5-county area the incidence was 4.7 cases per year per 100,000. Whether this cluster of cases is epidemiologically meaningful or a statistical artifact is uncertain. Further refinement of the distribution and demographics of cases in the high rate area may provide clues to the etiology of MLN and continuing surveillance of area will enable us to assess the reliability of the finding.

**502** NOSOCOMIAL SCABIES INFECTIONS: EPIDEMIOLOGY IN THE OUTPATIENT CLINIC. T. Yamauchi, K. Eisenach, and S. Furr, Departments of Pediatrics and Pediatric Pathology, University of Arkansas Medical Sciences and Arkansas Children's Hospital, Little Rock, Arkansas.

Scabies infestation appears to be increasing over the past few years. Nosocomial spread of this disease has been rarely reported. In October of 1978, 2 nurses and a medical student developed pruritic, papular eruptions on wrists, shoulders, neck and axillary areas. Scabies was diagnosed in each case by clinical and microscopic findings. Since all 3 of these individuals were assigned to the general pediatric outpatient clinic, an epidemiologic investigation was initiated. Both nurses and the medical student remembered prolonged close contact (during lumbar puncture procedure) with a 6-year-old child with aseptic meningitis and scabies. This index child had been diagnosed infested with scabies 24 hours previously, but had not received the prescribed treatment. A total of 41 persons who had both direct and indirect contact with the scabietic child were identified and examined. Scabies was diagnosed in 12 cases: 6 family members of the index child, 5 family members of the nurses, and a single child visiting one of the infested children. Topical application of 1% gamma benzene hexachloride was initiated for all diagnosed individuals and persons sharing living facilities were simultaneously treated to avoid reinfection. A re-education of staff, stressing the importance of proper handling of infected and suspected patients was initiated. Proper gowning and careful hand-washing between patients may have prevented this outbreak.

**503** RISK OF SUDDEN INFANT DEATH SYNDROME (SIDS)-EFFECT OF MATERNAL AGE AND BIRTHWEIGHT John E. Yount, S. Gorham Babson, University of Oregon Health Sciences Center Portland, Oregon (Spon. by John W. Reynolds)

Previous reports have shown an increased incidence in SIDS among low birthweight infants and with lower maternal age. The exact interrelationship has not been clear. We have used Oregon data for 1975 through 1979 from computer matched, medical examiner verified birth-infant death records to generate the matrix below. Data are from 186,187 births (<0.03% absent data) producing 445 SIDS events. Each element except \* is based on >5 SIDS events.

SIDS EPISODES/ 1000 RESIDENT BIRTHS

| Birth Weight Kg. | Maternal age |       |       |       |
|------------------|--------------|-------|-------|-------|
|                  | <19          | 20-24 | 25-29 | >30   |
| <2.0             | 13.46        | 6.83  | 1.0*  | 3.7*  |
| 2.0-2.5          | 11.30        | 5.58  | 3.24  | 3.1*  |
| 2.5-3.0          | 6.03         | 5.08  | 2.44  | 1.66  |
| 3.0-3.5          | 5.79         | 2.48  | 0.95  | 1.04  |
| 3.5-4.0          | 4.29         | 1.66  | 1.25  | 0.79  |
| >4.0             | 5.12         | 1.75  | 0.89  | 0.77* |

This matrix shows that there is a synergistic effect of maternal age and birthweight on SIDS incidence. There would appear to be prenatal or postnatal environmental effects related to maternal age that alter SIDS risk independently of birthweight.

**504** SUBSTANCE ABUSE DURING PREGNANCY AND NEWBORN SIZE. Barry Zuckerman, Joel J. Alpert, Elizabeth Dooling, Edgar Oppenheimer, Ralph Hingson, Nancy Day, Henry Rosett; Boston Univ. Sch. Med., Boston City Hospital, Depts. of Ped., Psych., Soc. Med. Sci., Boston.

Assessment of the impact of maternal alcohol consumption and other substance abuse during pregnancy on newborn size was accomplished by a two year study of 1,690 mother-infant pairs. Mothers were interviewed in hospital after delivery. 328 were also interviewed prenatally. Infants were examined at 1-3 days of age by one of 4 M.D.'s for growth, morphologic, and neurologic parameters. The sample was 59% Black, 22% Hispanic, 19% white; young (12% <18); poor (88% annual income <\$6,000) and poorly nourished. Prenatal and hospital interviews yielded similar results. The 1.8% of women who reported heavy drinking (3+ drinks/day) during pregnancy when compared with 64.5% abstainers were more likely to smoke (48% vs. 14%) and use drugs (marijuana 51% vs. 9%, psychoactive drugs 4% vs. 1%) all  $P \leq .0001$ . Stepwise multiple regressions examined the relative impact of interrelated variables including social, demographic, and pregnancy history factors on birth weight, length, head circ. (HC) and gestational age (GA). GA accounted for the largest variance in newborn size (22-29%). An additional 8-13% was explained by maternal age, pre-pregnancy weight, weight change during pregnancy, race, smoking, illness, and marijuana use (each significant  $P \leq .05$ ). These results add marijuana as a previously unreported factor affecting fetal growth.

## GASTROENTEROLOGY AND NUTRITION

**505** SOYBEAN LECTIN & SOYASAPONINS COOPERATIVELY STIMULATE THE PENETRATION OF GLYCININ IN RABBIT JEJUNAL EPITHELIUM. J.R. Alvarez, R. Torres-Pinedo. University of Oklahoma College of Medicine, Dept. of Pediatrics, Oklahoma City.

We have shown that soybean lectin (SBL) enhances the lysis of rabbit RBC (R-RBC) by soyasaponins (SAP). Furthermore, SBL, SAP & glycinin (GLY) formed complexes which markedly modified their individual effects on the R-RBC membrane. In this study, we investigated the effect of SBL and SAP on the penetration of GLY through rabbit jejunal epithelium *in vitro*. Mucosal explants were incubated (1h) with SBL, SAP & ( $^{125}$ I)GLY then maintained in organ culture medium containing ( $^3$ H)thymidine and ( $^{14}$ C) leucine for 6h.

| Incubation (1h)           | Culture (6h)              | Uptake (cpm) $\bar{x}$ |               |                  |
|---------------------------|---------------------------|------------------------|---------------|------------------|
|                           |                           | ( $^3$ H)T             | ( $^{14}$ C)L | ( $^{125}$ I)GLY |
| ( $^{125}$ I) GLY         | ( $^3$ H)T, ( $^{14}$ C)L | 1012                   | 5385          | 64               |
| ( $^{125}$ I) GLY-SBL     | "                         | 803                    | 3375          | 168              |
| ( $^{125}$ I) GLY-SAP     | "                         | 903                    | 4378          | 698              |
| ( $^{125}$ I) GLY-SBL-SAP | "                         | 975                    | 4372          | 1141             |

As shown above, DNA and protein synthesis were not affected by SBL or SAP. The stimulation of mucosal ( $^{125}$ I)GLY uptake by SBL-SAP was greater than their added individual effects. We are considering two different mechanisms to explain the cooperative effect of SBL and SAP on ( $^{125}$ I)GLY penetration: 1) SBL aggregates receptors and destabilizes the enterocyte apical membrane making it more vulnerable to SAP lysis, or 2) SBL binds to galactoside both in the membrane and in SAP and causes conformational changes around the membrane receptor that enhance SAP lysis. Either would lead to passive leak of ( $^{125}$ I)GLY through the altered membrane.

**506** PROSPECTIVE STUDY OF RISKS OF COMPLICATION IN 6,424 PROCEDURES IN PEDIATRIC GASTROENTEROLOGY. Marvin E. Ament, North American Society of Pediatric Gastroenterology, UCLA Medical Center, Department of Pediatrics, Los Angeles.

A prospective study of risks in upper intestinal endoscopy, liver biopsy, proctosigmoidoscopy, rectal biopsy, esophageal motility, intraesophageal pH probe tests and liver biopsy was conducted at 25 medical centers during an 18 month period from April 1, 1978 to October 1, 1979. 5,840 procedures were reported: 2046 upper intestinal endoscopies; 1,120 small intestinal biopsies; 1,400 proctosigmoidoscopies; 842 rectal biopsies; 432 esophageal motility and Tuttle tests, and 584 liver biopsies. Completeness of reporting varied from 88 to 99% of all procedures at participating centers. Total numbers of procedures varied from 5 to 50 per month. Some centers did not do all procedures. 20 of 25 institutions reported doing all the procedures. 5 of 25 did no esophageal function tests. Complications occurred in 1.7% of upper intestinal endoscopies; .5% of small intestinal biopsies; .2% of proctosigmoidoscopies; .1% of rectal biopsies, .3% of esophageal function tests and 4% of liver biopsies. Bronchospasm, transient respiratory arrest and phlebitis secondary to sedation were the commonest complications in those undergoing endoscopy; fever and sedation complications were commonest in small intestinal biopsy; only 1 hemorrhage requiring transfusion and 1 perforation were reported in this group. Fever and perforation of the rectum were the only serious complications at proctosigmoidoscopy. Rectal bleeding requiring transfusion and fever were the only complications in rectal biopsy and aspiration pneumonia and transient respiratory arrest the only ones in esophageal function tests. Liver biopsy had the greatest risk of complication with bleeding, pneumothorax and pain the 3 major complications.

Invasive diagnostic procedures in pediatric gastroenterology patients may be done with a low risk of complications. Information gained outweighs risk of procedures.