

**1475** THE TRACHEAL ASPIRATE LUNG PROFILE. Randy Randel, Mikko Hallman, Marie Kulovich, Roy Caviglia, Louis Gluck. Univ. of Calif., San Diego, Dept. of Ped. La Jolla, Calif.

The lecithin/sphingomyelin (L/S) ratio & percent phosphatidyl glycerol (PG) in amniotic fluid are used to evaluate fetal lung maturity, but their value in tracheal aspirates to predict respiratory distress syndrome (RDS) has not been defined. Phospholipid lung profiles on tracheal aspirates within 12 hrs of birth from 551 babies were analyzed by 2-dimensional thin layer chromatography & reflectance densitometry.

Infants with respiration, asphyxia, pneumonia, syndromes, chorioamnionitis, IUGR, or pulmonary hypoplasia were excluded. Radiologic & clinical criteria were used to classify the remaining patients as RDS (125), retained lung fluid (RLF) (50), or no respiratory disease (60). L/S best predicted RDS (78%) when values were  $\leq 2.6$  & identified normals (85%) above 2.6. The mean L/S for RLF (4.06) & normals (4.37) were higher than for RDS (2.3). Accuracy of PG in predicting RDS was best (96%) at trace (<1%) or less, identifying 83% of normals. Seventeen percent of normals & 56% of RLF had <1% PG, while 4% of RDS cases had  $\geq 1\%$  PG. Lung profile values accepted for amniotic fluid seem to overestimate pulmonary maturity when applied to tracheal aspirates. Tracheal aspirate L/S & PG together are highly useful in the biochemical diagnosis of RDS.

**1476** PRENATAL CARE AND PREMATURITY. James S. Rawlings, Franklin R. Smith, Roger A. Spencer. Tripler Army Medical Center, Dept. of Pediatrics, Honolulu, HI

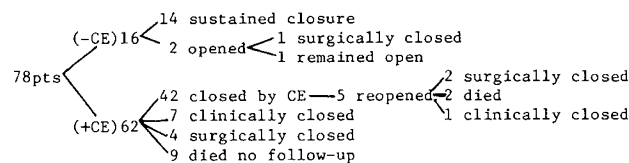
The value of frequent routine prenatal clinic visits in seemingly uncomplicated pregnancies has been questioned. To determine whether routine outpatient care significantly influences the incidence of premature delivery, we analyzed prenatal care compliance among low-risk patients who delivered over a one-year period. Prenatal care records of 50 patients who delivered prematurely were compared to those of 175 randomly selected patients who delivered at term. There were no demographic differences between the two groups. Rates of clinic attendance were significantly lower ( $p < 0.01$ ) among patients who delivered severely premature infants (Table). Mortality among premature infants with a history of poor prenatal care was 23% in contrast to 2% among prematures with adequate prenatal care ( $p < 0.001$ ). We conclude that seemingly low-risk obstetric patients who demonstrate poor early prenatal care compliance are at high risk for premature delivery and neonatal demise. Routine prenatal care may be an important factor in limiting both the incidence and degree of prematurity.

**PERCENT COMPLIANCE WITH PRENATAL CARE GUIDELINES**

VISIT DATES (WEEKS)	GESTATIONAL AGE AT DELIVERY			*(p < 0.01 when compared to term deliveries)
	25-30 WKS (N=12)	31-35 WKS (N=38)	37-43 WKS (N=175)	
8-12	0%*	29%*	56%	
13-16	25%*	58%	67%	
17-20	42%*	63%	76%	
21-24	50%*	79%	82%	

**1477** DIAGNOSIS OF PATENT DUCTUS ARTERIOSUS IN VLBW INFANTS BY PRECORDIAL CONTRAST ECHOCARDIOGRAPHY (CE). Philip G. Rhodes, Mitzi G. Ferguson, James A. Joransen, Daksha M. Patel (Spon. B. Batson), Dept. of Peds., U. of Miss. Med. Ctr., Jackson, MS.

Patent ductus arteriosus (PDA) is an important negative factor in the clinical course of the VLBW infant with hyaline membrane disease (HMD). This study was designed to diagnose the PDA by CE and to close the PDA with oral indomethacin. In 78 VLBW infants with an umbilical artery catheter, the patency of the ductus arteriosus was determined by CE within the 1st 72 hrs of life. If the CE was positive for a PDA, indomethacin was administered in 2 doses of 0.15mg/kg OG 12 hrs apart. A 2nd CE was done following the 2nd dose to determine closure of the PDA. Results are:



The PDA can be determined simply by CE and oral indomethacin is effective in closing the PDA in most VLBW infants <72 hrs of age with HMD.

1. Zednikova, M., et al, *Ped. Cardiol.*, Vol. 2, 1982

**1478** THE EFFECTS OF CHORIOAMNIONITIS ON THE NEONATE. Philip G. Rhodes, Mitzi G. Ferguson, Cris G. Puckett (Spon. B. Batson), Dept. of Peds., U. of Miss. Med. Ctr., Jackson, MS.

Increased neonatal prematurity, morbidity, and mortality is reported to be associated with chorioamnionitis (chorio). The present study was designed to determine the effects of chorio on the incidence of neonatal bacterial infections, hyaline membrane disease (HMD), asphyxia, and mortality. The charts of mothers with chorio and their infants were reviewed retrospectively from Jan 1980-Dec 1982. Maternal chorio was defined as fever >100.4, tender lower abdomen, and/or leukocytosis >20,000. The control for each study patient was defined as the next live born infant with a birthweight (BW) within 100gm. In the study population 71% of the infants had a BW of <2500gm. Bacterial infection, HMD, and mortality were not significantly different in the study and control groups. However, the incidence of asphyxia was significantly higher in the study group ( $p$  value <0.025).

	Number of Patients	Bacterial Infection	HMD	Asphyxia 1 min <5 5 min <6	Deaths
Study	116	11	33	31	23
Control	116	9	31	18	13
P value		<.75(NS)	<.9(NS)	<.025(S)	<.1(NS)

From this data it appears that maternal chorio is significantly associated with asphyxia in the neonate but not directly with neonatal infection.

**1479** SUBEPENDYMAL GERMINAL MATRIX HEMORRHAGE (SEH) IN TERM NEONATES. Karen E. Shattuck, C. Joan Richardson, C. Keith Hayden (Spon. by David K. Rassin), Univ. of Texas Medical Branch, Departments of Pediatrics and Radiology, Galveston, Texas.

Cerebral ultrasonography was done within 72 hours of birth on 505 newborns of  $\geq 37$  weeks gestation admitted during an 8 week period to the normal newborn nursery. Abnormalities were detected in 23 babies (4.6%). Bilateral SEH occurred in 14 (2.8%) and unilateral SEH in 6 (1.2%). Agenesis of the corpus callosum was detected in 2 (0.4%) and mild ventricular dilatation in 1 (0.2%). None of the 20 babies with SEH had intraventricular hemorrhage. When compared to babies with no SEH, those with SEH were of significantly lower gestational age and birth weight. The difference in weight was attributable to lower birth weights in females with SEH compared to females without SEH. Significantly more babies with SEH were small for gestational age, were delivered vaginally, and were black. No differences existed between babies with and without SEH in regard to gender, obstetrical presentation, use of forceps, birth trauma, Apgar scores, asphyxia, maternal age and parity, and clinical problems. Although SEH is primarily a problem of the premature baby, this study indicates that SEH is relatively common (4.0%) in the term newborn and may be clinically silent. In this study babies at greatest risk for SEH were black, small for gestational age, and vaginally delivered.

**1480** NUCHAL CORD (NC) AS A CAUSE OF NEONATAL ANEMIA. Angela J. Shepherd and C. Joan Richardson (Spon. by David K. Rassin), University of Texas Medical Branch, Department of Pediatrics, Galveston, Texas.

Although NC occurs in 20% of deliveries and may be associated with perinatal asphyxia, anemia has not been emphasized as a complication of NC. We documented the occurrence of NC in 437 consecutive births and compared the incidence of anemia (venous hemoglobin <13.2 mg/dl or hematocrit <39.17%) in the group with NC to a group of 49 normal controls derived from the same population. NC occurred in 86 (19.7%). Tight NC (TNC), defined as nonreducible and clamped early, occurred in 39 (8.9%). Loose NC (LNC), defined as reducible, occurred in 47 (10.8%). None of the controls were anemic. Of 27 babies studied who had TNC, 5 (18.5%) were anemic ( $p < 0.01$ ) early (< 8 hours of age). Three of the 5 were hypotensive and anemic at birth and required blood transfusion. Of 30 babies studied who had LNC, 4 (13.3%) were anemic ( $p < 0.05$ ). None of the 4 were anemic early, but were anemic by 36 hours of age. These data suggest: 1) TNC and LNC are associated with increased risk of anemia. 2) Anemia due to TNC is present at or soon after birth and may require transfusion. 3) Anemia due to LNC is not present at birth but occurs (> 24 hours). 4) Babies with NC should have hemoglobin/hematocrit determinations soon after birth, if symptomatic, or before discharge, if asymptomatic.