1276 FUNCTIONAL BACTERIAL OPSONIC ACTIVITY OF HUMAN AMNIOTIC FLUID. Michael J. Cone, Daniel J. Marmer, Donald E. Hill, and Russell W. Steele. Univ. of Arkansas for Medical Sciences, Dept. of Pediatrics, Little Rock, AR.

There is some data to suggest that amniotic fluid (AF) protects the fetus from invasion by pathogenic bacteria. To examine methods by which AF may offer such protection, quantitative antibody, complement activity, and functional opsonic capacity were measured. Immunoglobulins were measured by laser nephelometry and total hemolytic complement by radial diffusion; results suggested activity adequate for bactericidal capacity.

The chemiluminescence assay was used to quantitate the functional interaction between PMN's and E. coli, group B strep (GBS) or zymosan particles preopsonized with amniotic fluid obtained at different stages of gestation. Results were compared to those for normal serum. Data were analyzed by evaluation of the initial slope, area under the curve, and peak chemiluminescence response.

Opsonic activity of amniotic fluid for E. coli and GBS was demonstrated with E. coli showing greater reactivity(maximum cpm= 15-25,000) than GBS(10-20,000 cpm). Specific, as well as nonspecific, opsonic activity was demonstrated by absorption of AF with killed bacteria. Concentration of amniotic fluid did not result in an increase in chemiluminescent activity demonstrating that optimal opsonic activity already exists. The classical and alternate pathways of complement were assessed for E. coli and GBS. Amniotic fluids preterm did not differ from term pregnancies. This study demonstrates that amniotic fluid can provide the fetus with protection from bacterial pathogens and delineate mechanisms for such protection.

1277 CONGENITAL CHYLOTHORAX-THREE CASES PRESENTING WITH EDEMA OF THE THORAX AND ABDOMEN. L. Consenstein, D. A. Clark, M. Oliphant and L. Gordon. (Spon. by M. L. Williams) Dept. of Pediatrics, SUNY, Upstate Medical Center and the Dept. of Radiology and Pathology, Crouse Irving Memorial Hospital, Syracuse, NY.

Three infants with congenital chylothorax have recently presented. Two of these were full-term females and the third was a 36 week male. Each pregnancy was uncomplicated and had spontaneous vertex vaginal deliveries.

Immediately after birth each infant had severe respiratory distress requiring intubation and ventilation. Each showed significant edema limited to the chest wall and trunk with no other physical anomalies.

The chest x-ray in each case revealed large bilateral pleural effusions. Chest tubes were inserted and >200 cc of serous fluid containing >3,000 WBC(98% lymphs) was drained from each thorax.

With the removal of the fluid, 2 of the 3 infants improved markedly with both edema and respiratory distress resolving within 5 days. There was no recurrence of fluid even after feedings were begun. The premature male continued to require maximal respiratory support and died of respiratory failure at 12 days. The histopathology of his lung revealed changes consistent with bronchopulmonary dysplasia.

In summary, congenital chylothorax must be considered in a newborn with respiratory distress, pleural effusions and edema limited to the thorax and abdomen.

1278 THREE CLINICAL PATTERNS OF RDS-PDA IN VERY LOW BIRTHWEIGHT NEONATES (VLBW). Larry N. Cook, Roger J. Shott, Shirley A. Wilkerson, Carolyn J. Forgey, Peter J. Murphy, Valerie J. Taylor and David H. Adamkin. University of Louisville, University Hospital, Department of Pediatrics, Louisville, Kentucky. (Spon. by Billy F. Andrews).

68 VLBW neonates (<1200 grams)with severe RDS(FiO2 requirement >.50, IMV and a positive CXR)were evaluated for a PDA by exam, echocardiography, pulsed doppler and flush aortography. 3 different clinical courses were noted. Group I(19% mean BW 888.7gms) demonstrated early irreversible CR failure and death within 24 hours despite attempts at medical closure of PDA with indomethacin(.2mg/kg po). Group II(62%)had severe RDS and PDA and medical or surgical ligation was performed in all of the neonates when the PDA was documented and deemed clinically significant. Group III(19%)had severe RDS without a documentable PDA. The overall study group survival was 59.9%. Survival in Groups II and III was 67% and 84.7% respectively. A comparison between these groups is listed below:

	Mean BW	Mean Days Assist Vent	Pneumo-thorax	BPD	IVH
Gp II(RDS-PDA)	933 gms	40.4	45%	81%	30%
Gp III(RDS)	953.9 gms	51	59%	82%	15%

The data show that the presence of RDS with or without PDA in VLBW neonates is associated with prolonged requirements of assisted ventilation and the development of BPD. However, a smaller group of VLBW neonates with severe RDS and PDA, despite early manipulation of the PDA will still succumb in less than 24 hours.

1279 A COMPARISON OF FLUSH AORTOGRAPHY, ECHOCARDIOGRAPHY, AND PULSED DOPPLER IN THE DIAGNOSIS OF PDA. Larry N. Cook, Shirley A. Wilkerson, Carolyn J. Forgey, Allan J. Rees, Jennifer W. Fleischaker, and David H. Adamkin. University of Louisville, University Hospital, Department of Pediatrics, Louisville, Kentucky. (Spon. by Billy F. Andrews).

Morbidity and mortality in PDA is influenced by accuracy of diagnosis, early versus delayed treatment, and the complications of treatment and diagnostic methods. 68 premature infants less than 1200 gms with severe RDS were evaluated for PDA by clinical exam, flush aortography, echocardiography, and pulsed doppler. PDA was diagnosed in 42 infants(62%)surviving greater than 24 hours. 13 infants(19%)showed no evidence of PDA. A comparison of the accuracy of diagnostic methods in detecting ductal shunting revealed the following:

	With PDA (n=42)				Without PDA (n=13)			
	n	+	-	%Acc.	n	+	-	%Acc.
Flush	30	25	5	83%	6	0	6	100%
Echo	27	21	6	78%	13	1	12	93%
Doppler	25	18	7	72%	6	0	6	100%

The data show all three diagnostic tools to be highly accurate with a low degree of false negative results. Flush aortography was the most sensitive. Of the 5 patients with negative flush aortography, 3 had surgical confirmation of PDA, 1 showed a positive echo and doppler, and 1 was confirmed by clinical exam alone.

1280 INFLUENCE OF PLACE OF BIRTH ON THE SURVIVAL OF THE VERY LOW BIRTH WEIGHT (VLBW) INFANT. Leandro Cordero, Jr., Carl R. Backes, Frederick P. Zuspan (Spon. by Grant Morrow, III) Ohio State Univ. College of Medicine, OSU Hospitals, Dept. of Pediatrics and Obstetrics, Columbus, Ohio.

In order to assess the effect of place of birth on the survival of the VLBW infant the population of an entire county was studied. All premature infants born during the 1977-79 calendar years and whose birth weights were between 500 and 1250 gms. were included. These babies were delivered at either the Ohio State Regional Perinatal Center(OSU-RPC)or the maternity services of the five general hospitals located in the county. Labor and delivery room records and data from the Dept.of Vital Statistics were reviewed and compared. Mortality rates were studied in relation to place of birth and source of ultimate neonatal care (neonatal transport).

Neonatal Mortality (%) by Place of Birth (1977-79)

	OSU-RPC		COMMUNITY HOSPITALS		
B. Weight (gm.)	#	%	#	%	Chi Square (p)
500-750	37	84	72	97	<0.02
751-1000	66	56	83	71	<0.05
1001-1250	83	24	115	33	NS
	186	47	270	62	<0.01

Fifty-six percent of VLBW infants born at the community level were transported to a tertiary care facility.Mortality rate for those transported was 51% and for those kept at the place of birth was 77% ($p<0.01$). VLBW prematures born at community hospitals would be expected to have lower mortality if referred to a level III center. Transport of the mother to a perinatal center improves survival for the VLBW infant.

1281 POST-ROTATORY NYSTAGMUS IN THE FULL-TERM INFANT. Leandro Cordero, Jr., David L. Clark,Marina I.Liscano (Spon.by Grant Morrow,III) Ohio State Univ.College of Med.,OSU hospitals,Dept.of Pediatrics and Anatomy,Columbus,Ohio.

Post-rotatory nystagmus (P-RN) is an easily elicited reflex which has been found to be abnormal in developmentally delayed children. P-RN has been recorded in newborn infants,but limited information is presently available. Thirty-six healthy full-term infants were tested at 1, 2, 4, 6, 9 and 12 mo. of age. Infants were held in a rotational chair, spun in the dark for one minute at a constant angular velocity (150^{o}/sec) and then abruptly stopped. P-RN occurrence, duration of primary nystagmus (reversal time), time constant values (Tc=cupula,Ta=adaptation) and intersaccadic intervals (time between fast components) were recorded, measured and analyzed (ANOVA). P-RN was elicited more frequently in older infants. Mean reversal time was 23.6 sec. at 1 mo. and increased linearly with age, approaching by 12 mo. those of children and adults (34.8 sec). Cupula and adaptation times (Tc and Ta) varied with the individual, did not change with age and were similar to those reported for adults. Mean intersaccadic interval (ISI) was 0.49 and 0.64 sec. at 1 and 12 mo.,respectively. P-RN is present at 1 mo. of age and can be reliably measured if wakefulness is maintained. Adult-like values for Tc and Ta reflect a relatively mature vestibular system. Reversal time appears to be a sensitive measure of vestibular function and shows maturational changes during the first year of life. Preliminary evaluation of ISI suggests that this system is functional early in life. These data may be valuable for comparison with those of infants at risk for developmental delay.