997 THE EFFECTS OF PHOTOTHERAPY ON THE ELECTROCARDIOGRAM OF THE NEWBORN. Gilbert Martin, Steven Shapiro, William Ireland, Ralph Bertolin, Newell Johnson, and Robert Neuenschwander. (Spon. by P.Y.K. Wu). Univ. of Southern California Sch. of Med., Magan Medical Clinic, Inc. Los Angeles and Covina, Calif.

Phototherapy is an accepted form of medical therapy for hyperbilirubinemia, but controversy still exists concerning its safety and long term effects. To assess the effects of phototherapy on the ECG, two groups of 20 neonates were studied. Group A: full term, 11 F, 9 M, more than 2500 grams. A CBC, Blood Type, Coombs test and Indirect Bilirubin determination was done within 8 hours of age and the bilirubin was repeated daily until discharge. An ECG was done every 8 hours for 3 days. Group B: full term, 9 F, 11 M, more than 2500 grams - who developed an Indirect Bilirubin of more than 10 mg%. Identical laboratory studies were done and ECG's were performed pre, during and post phototherapy (every 8 hours). There was no clinical cardiac disease in either group. The following ECG measurements were evaluated: heart rate, P-R interval, QRS interval, corrected Q-T interval, ST or T wave abnormalities or arrythmias of any kind. There was no evidence of any change in any of the ECG measurements at any bilirubin level or at any length of time under the bilirubin lights, in group B compared to Group A. It is concluded that phototherapy has no effect on the electrocardiogram in the newborn infant.

998 THE PRIVATE PEDIATRICIAN AND NEONATAL INTENSIVE CARE. Gilbert Martin, Steven Shapiro, William Ireland, Robert Neuenschwander, Ralph Bertolin and Newell Johnson. (Spon. by P.Y.K. Wu). Univ. of Southern California Sch. of Med., Magan Medical Clinic, Dept. of Pediatrics, Los Angeles and Covina, Ca.

Reorganisation of perinatal medicine and increasing neonatal fellowship programs have decreased the role of the general pediatrician in the care of the sick newborn. The majority of deliveries still occur in community hospitals and the transfer of infants to regional centers increases morbidity and places a burden on family visitation. The pediatrician who cares for the sick neonate has become an "endangered species". Six pediatricians are working in a recently established "private neonatal ICU". Ancillary services were trained and pediatric sub-specialists were added to the medical staffing. From Nov. 1972 - Nov. 1976, 835 infants were admitted to the ICU. 453 were inborn and 382 were transferred from other institutions. The neonatal mortality rate was as follows: 1973 - 8.5; 1974 - 7.8; 1975 - 4.0; 1976 - 5.8. The pediatricians were able to maintain full practice and staff the ICU. Community support for the unit was overwhelming and included donations, educational tours and volunteer services. This experience demonstrates that the pediatrician can continue to care for acutely ill neonates and if interested can develop and maintain neonatal intensive care center.

999 LACK OF THROMBOCYTOPENIA IN NEWBORN INFANTS TREATED WITH PHOTOTHERAPY. H.D.Modanlou, O. Ortiz (Intr. by P.K. Wu) Newborn Division, Miller Children's Hospital, Long Beach, University of California, Irvine.

Recent investigations in animals and in low birthweight infants showed that conventional phototherapy increases the rate of platelet turnover. A prospective study was designed to investigate the time relationship between clinical signs of neonatal sepsis, detection of thrombocytopenia and positive blood culture. As part of the same study we investigated the effect of conventional phototherapy on platelet counts. Sixty newborn infants who had septic work-up but without positive blood culture and without a clinical condition known to cause thrombocytopenia were included in this study. Platelet counts by phase microscopy were done at the time of septic work-up and repeated at 12,24,48 and 72 hours. Twenty-four infants received phototherapy during the study period (mean 48 ± 25 S.D. hours) and 36 served as controls.

Mean Platelet Count x $10^3/mm^3$ ± SEM

	Initial	12 Hrs.	24 Hrs.	48 Hrs.	72 Hrs.
Control (36)	305±19	321±19	286±22	315±23	320±18
Treated (24)	252±22	269±24	278±26	311±27	322±27

None of the infants of phototherapy or control group developed thrombocytopenia (platelets <100,000/mm^3) neither statistical comparisons between the two groups, at the above time intervals, showed any significant differences. Contrary to previous reports this study does not show any thrombocytopenia associated with conventional phototherapy although the platelet turnover may be increased. In the presence of thrombocytopenia, etiology other than phototherapy should be considered.

1000 SEQUENTIAL BLOOD VOLUME STUDIES FOLLOWING ALBUMIN INFUSION IN NEWBORN LAMBS WITH HYPOVOLEMIC SHOCK. Didier Moulin, Sunthorn Horpaopan, Abass Alavi, James D. Ferguson and Maria Delivoria-Papadopoulos. University of Pa. School of Medicine, Depts. of Physiology & Pediatrics. Phila., PA

The experiments were designed to investigate the time sequence in blood volume changes in 2 groups of newborn lambs: those receiving 25% salt-poor albumin 1 gm/Kg after removal of 20% estimated blood volume (Group A, n = 6) and those receiving albumin without blood removal (Group B, n = 8). In each group half of the animals served as controls and did not receive albumin. To calculate total blood volume (TBV), ^{51}Cr tagged RBC were used to measure red blood cell volume with central Hcts; measurements were made before and after albumin infusion in all groups at 15,45,90 min, 3 and 6 hrs. Vital signs, blood pressure and blood gases were monitored throughout the experiments. TBV expressed as % change from baseline was 9.85±1.61% in Group B following albumin infusion, a significant increase from controls ($p<0.01$) and remained unchanged for 6 hrs. Following bleeding in Group A, TBV decreased by 16.61±4.26% and increased to 10.46±6.02% immediately after albumin infusion, reaching 14.76±6.11% at 45 min and 19.89±6.24% at 3 hr, significantly different from controls ($p<0.05$). The bled animals that did not receive albumin remained with a decreased blood volume for 3 hr, and thereafter increased. These data indicate that since 25% albumin infusion increased TBV in both groups of lambs for at least 6 hours, a single dose infusion can be beneficial in newborns with hypovolemic shock.

1001 PROGNOSTIC SCORING IN EARLY ONSET NEONATAL GROUP B STREPTOCOCCAL SEPSIS. Phillip I. Nieburg (Spons. by Margaret L. Williams). SUNY, Upstate Med. Ctr., Dept. of Peds., Syracuse, N.Y.

Early onset group B streptococcal sepsis (EOGBS) of the neonate is associated with high mortality. In a review of our recent experience with blood culture proven EOGBS (29 neonates < 48 hrs. old), factors associated with poor prognosis were: gestational age (GA) < 38 wks., apnea, nucleated red blood cell count (nRBC) >1200/mm^3 and neutropenia (absolute total neutrophils <1000/mm^3). Overall mortality was 34% (10/29) and was similar for boys (8/20) and girls (2/9) and for Black (1/4) and non-Black (9/25) infants. Mortality associated with each factor is shown in the table.

	PROGNOSTIC FACTORS			
Mortality	GA<38 wks.	Apnea	†nRBC	Neutropenia
With Factor	55% (10/18)	89% (8/9)	70% (7/10)	80% (8/10)
Without Factor	0% (0/11)	10% (2/20)	19% (3/16)	6% (1/16)

Rupture of fetal membranes (ROM) within 1 hr. of delivery was associated with neutropenia (6/9) and 60% mortality (6/10); mortality with longer duration of ROM was 22% (4/18) ($p<0.05$). Twenty-six (of 29) infants had complete blood counts and differentials. A prognostic score for each of these 26 infants was obtained by assigning 1 point for the presence of each prognostic factor. Sixteen infants had prognostic scores of 0 or 1; their mortality was 6% (1/16). Mortality was 80% (8/10) in those infants with prognostic scores of 3 or 4. Prognostic scoring may allow the identification of high risk infants who are candidates for more aggressive, less conventional forms of therapy.

1002 "NEAR-MISS" SUDDEN INFANT DEATH SYNDROME (SIDS) WITH LACTIC ACIDOSIS. Michael A. Nigro & Ingeborg Krieger Wayne State Univ. Sch. of Med. & Children's Hosp. of Mich., Detroit

A healthy 5 mo. old male had six apneic spells with cyanosis and loss of tone, lasting up to 60 seconds, within two days. Although monitored and free of further apneic episodes, hyperlactatemia (46 mg%) was present two and four days later, pyruvate 2.2 mg%, arterial and CSF lactate 43 and 20 mg%; uric acid 11 mg%, plasma alanine increased, urine screen by GC for organic acids normal. Multiple FBS determinations, glucose tolerance and alanine loads were normal and not associated with lactate elevation. Conversion of I-^{14}C pyruvate to $^{14}CO_2$, measured in WBC and cultured fibroblasts was normal. BMR was normal. On anticonvulsants and thiamine there were 7 more episodes in 6 weeks. Multiple EEG's were normal except for one episode of seizure discharges following 10 second apnea. Spontaneous panting episodes occurred prior to and throughout observation. Following a ketogenic diet with medium chain triglycerides, serum lactate declined gradually to 8.5 mg% and lactate pyruvate ratio normalized: 11. The patient who excretes large amounts of medium chain dicarboxylic acids, has been asymptomatic for 5 months. A causal relationship with the apparent recovery is possible. The above tests do not suggest defective gluconeogenesis; defective pyruvate dehydrogenase complex in brain is unlikely in view of normal pyruvate metabolism in WBC and fibroblasts, and lower lactate levels in CSF than blood. Lactate, which may be elevated due to dysregulation of respiratory drive, should be monitored in infants at risk for SIDS.