

† 571 MEDICAL CARE AND THE LARGE PREMATURE INFANT. Nigel Paneth, Sylvan Wallenstein, John L. Kiely, Curtis P. Snook, Mervyn W. Susser, Columbia University, Sergievsky Center, Division of Epidemiology, and Dept. of Pediatrics, New York City.

Large preterm infants (born before 37 completed weeks of gestation and weighing >2250 grams) experience a neonatal mortality risk almost 4 times higher than do term infants in the same weight range. In an analysis of the effect of hospital level of birth on neonatal mortality, such large preterm infants were found to experience higher mortality if born outside of a tertiary care (Level 3) center. For all singleton infants in this weight-gestation category born in New York City over a 3 year period (N=23,257), the relative mortality risk for Level 1 births (compared to Level 3) was 1.72 ( $p < .01$ ) and for Level 2 births 1.47 ( $p < .05$ ). The excess mortality at Level 1 and Level 2 units was almost entirely due to a more than twofold higher death rate in black infants born in these units. Several potentially confounding socio-economic, demographic and biological variables entered into a logistic regression model could not account for the higher mortality rates in Level 1 and Level 2 units. Deaths in large preterm black infants born at Level 1 hospitals were less likely to occur in a receiving tertiary care center than were deaths in low birthweight infants, or deaths in term normal weight infants, suggesting that the need for special care of large preterm infants is underestimated in hospitals without newborn intensive care units.

572 WHICH ELEMENTS OF PRENATAL SOCIAL SUPPORT IMPROVE NEONATAL MORBIDITY? John M. Pascoe, John Chessare and Evelyn Baugh (Sponsor: Marshall Klaus) Pediatrics and Human Development, Michigan State University, East Lansing, MI

Though prenatal psychosocial factors influence pregnancy outcome, the specific components of prenatal social support which improve neonatal morbidity have not been delineated. To define those elements of social support which alter neonatal morbidity, we studied 201 mothers seen consecutively by a social worker in a community hospital based obstetrical clinic. About 80% were receiving welfare and 20% had low paying jobs. We assessed the availability of help with daily tasks, a communicative male and other adults, emergency child care as well as community involvement. Factor analysis generated a factor consisting of help with daily tasks and a communicative male support figure. The median of the combined score for these two items was used to divide the sample into "low" and "high" social support subgroups.

About 20% (14/73) of infants from low support multigravida mothers were admitted to a NICU compared to 6% (4/66) of babies born to high support multigravida mothers (risk ratio=3.18,  $p=0.02$ ). These differences were not present in primigravida mothers. Compared to infants of high support multigravida mothers, infants of low support mothers were smaller (3402±60gm vs. 3114±79gm,  $p=.005$ ; 51.8±.34cm vs. 49.8±.49cm,  $p=.001$ ) and born earlier (39.4±.17 weeks vs. 38.6±.29 weeks,  $p=.02$ ). There were no differences between low and high support multigravida mothers' age, education, income or race. ( $p>0.2$ ). These data suggest that providing prenatal help with daily tasks and a communicative male support figure may improve neonatal morbidity for infants of indigent, urban multigravida mothers.

573 LONGITUDINAL PATTERNS OF PERINATAL DEATHS BY DIAGNOSIS AND BIRTHWEIGHT DISTRIBUTION. John B. Paton, David E. Fisher, Stephen A. Myers and Neva Gould, Pritzker Sch. of Med., Univ. of Chicago., Michael Reese Hosp., Depts of Peds., OB/Gyn, Path., Chicago.

We have reviewed 934 perinatal deaths from 1976 through 1983 among 28,000 inborn births in an urban perinatal center hospital. During perinatal mortality review the principal cause of death was assigned by one individual (JBP) into 7 fetal and 7 neonatal major diagnostic groupings; autopsy information contributed to assignment in 80%. Perinatal asphyxia accounted for approximately 50% of the neonatal deaths; over time there tended to be a redistribution with increased contribution from the 500-750g group. Congenital anomalies decreased from 11.7% to 9.1% while infection tripled from 8.3% to 25%. The most impressive change was the decrease in immaturity as the principal cause from 21% to 4.5%; this change may represent an artifact of having more information available for the review process. For 33% of fetal deaths cause was undetermined. The next common cause was placental abruption, 18.5% overall, with no real change over time; in contrast maternal disease and Rh disease decreased from 12% to 10% respectively to 2.3% for each group. The wt specific distribution of perinatal mortality, except for >2500g, has been progressively towards the <1000g infant, now accounting for over 2/3 of perinatal mortality and clearly identifying prematurity as the most important unsolved problem. In addition, these data identify other causes of death to direct education and intervention programs to improve outcome for both the fetus and newborn.

574 PERSISTENCE OF HIGH PERINATAL MORTALITY (PM) IN AN URBAN PERINATAL CENTER. John B. Paton, David E. Fisher, Stephen A. Myers, Kwang-sun Lee, Atef Moawad and Gail Wilson, Univ. of Chgo/Michael Reese Perinatal Ctr., Chicago.

Chicago has shown a decrease in PM over the past decade more gradual than the Nation as a whole. We looked for an explanation to PM data over the past decade 1973-83 for our Perinatal Center (74,589 deliveries) which serves a large high-risk population. In 1979, maternal transfers/transport began to impact on delivery populations, a trend which has accelerated to the present. Crude PM rate dropped from 39 to 30. Deliveries <1500g (VLBW) increased from 3.2% to 4.9%; PM <1500g has dropped from 708 to 469. Deliveries <750g increased from 1.4 to 2.0%, while their contribution to PM rose from 36% to 58%; for every higher weight category the contribution to PM decreased. In particular between 750-1500g PM decreased from 542 to 170. Neonatal mortality improved for each 250g weight group <1500g while each group contributed a larger fraction to the delivery population. The net effect on crude neonatal mortality, 16.2 to 16.9, is less dramatic considering the improvements in perinatal care. In contrast, in our network of hospitals neonatal mortality went from 19.5 in 1978 to 14.5 in 1983. There has been a dramatic redistribution of VLBW deliveries with the Center increasing from 2.8 to 3.5% of live births while the Network has decreased from 2.6 to 1.2% with a System wide decrease of less than 0.5% VLBW. These data demonstrate that improved perinatal care and regionalization can affect weight-specific outcome; a major impact on overall survival awaits significant reduction of VLBW rates.

● 575 CHILDHOOD SARCOIDOSIS. Edward N. Pattishall, Gerald L. Strobe, Stanley M. Spinola, and Floyd W. Denny, Department of Pediatrics, University of North Carolina, Chapel Hill, N.C.

A wide range of clinical and laboratory manifestations have been reported in childhood sarcoidosis. We are presenting the findings from a review of the largest series reported to date. Sixty patients were diagnosed with sarcoidosis by biopsy (47) or chest x-ray (CXR) and clinical course (13). Fifty-four percent were male, 72% black, 88% lived on the coastal plain of N.C., 75% presented in the winter or spring, and the average age was 13.3 yrs. Common symptoms were weight loss (54%), cough (53%), and fatigue (48%). Common physical findings included peripheral lymphadenopathy (58%), eye changes (54%), and skin changes (42%). All but 1 had an abnormal CXR. Frequently abnormal laboratory tests included an elevated ESR (74%), eosinophilia (45%), increased gamma-globulins (88%), hypercalcemia (31%), hypercalciuria (67%), and pulmonary function tests (50% with restrictive changes). Distinctive features not emphasized fully in the past were the prominence of eye involvement, hypercalcemia/hypercalciuria, skin involvement and the multisystem involvement. After an average of 4.7 yrs. of follow-up, there was considerable improvement in clinical manifestations, CXR findings, and pulmonary function; however, there was 1 death, 35% had continued physical abnormalities, and 47% had CXR findings. Because children treated with adrenocorticosteroids had more severe disease, evaluation of therapy could not be done. Due to the larger number of children in this series, the clinical manifestations are clarified and knowledge of the distinctive features should improve the management of childhood sarcoidosis.

† 576 EPIDEMIOLOGY OF SIDS: TWO POPULATIONS AT RISK? Mark A. Pearlman (Spon. by Milton H. Donaldson). UMDNJ-Rutgers Medical School at Camden, Cooper Hospital/University Medical Center, Department of Pediatrics, Camden, New Jersey

Descriptive epidemiologic studies of Sudden Infant Death Syndrome (SIDS) have not helped elucidate possible causes but have defined population characteristics that must be addressed by prospective theories. Many such studies have had poorly defined populations. Careful pathologic and statistical studies are still needed to characterize this population. In New Jersey, 826 infants died of SIDS from 1/1/76 to 12/31/81. A State law mandating autopsies in such cases has led to an autopsy rate in excess of 98%. A match of birth and death certificates was available for 767 such deaths over this six-year period. Significant findings included the peak age at death between 1 and 2 mo. and a mean age at death of less than 2 mo. The incidence of SIDS in the non-white population (NWP) (3.17/1,000 LB) was significantly greater than in the white population (WP) (0.89/1,000 LB). The male predominance was present in the WP (250 males/388) but not in the NWP (189 males/379). The well-described seasonal variation was noted but was entirely explained by a significant increase only in the males. Significantly more children >3 mo. of age died in the winter months. This was not true of infants <3 mo. of age at the time of death. This analysis suggests that victims of SIDS may represent two distinct populations: a group of younger infants without male predominance and a second group of older infants containing significantly more males who die in winter months when respiratory infections are more common.