59 A.PANERO*,G.MARZETTI*,F.LAURENTI*,R.FERRO*, G.ISACCHI*,P.G.SAVIGNONI*, and G. BUCCI. Inst. of Pediatrics and Hematology, Univ. of Rome, Italy. ABSENCE OF NECROTIZING ENTEROCOLYTIS (NEC) IN SEPTIC LOW BIRTHWEIGHT INFANTS TREATED BY POLYMORPHONUCLEAR LEUKOCYTES (PMNs) TRANSFUSIONS.

In the decade 1970-79, NEC was observed only in the period '76-'79, and only in infants weighing ≤1250 g, with sepsis and surviving at least 48 hours. In 1978 a trial of PMNs transf. to septic infants was started. In septic infants with the above characteristics admitted in '76-'79, we considered the following items: sex, weight, GA, SBP, a-b status, temp. on adm., umb. vessels catheterization, feeding schedules, blood culture, clinical signs, antibiotic and PMNs transf. therapy, and occurrence of NEC. The 10 patients with and the 28 pts. without PMNs were similar for the above items, except that NEC occurred in 10/28 pts. without PMNs transf., and never in the 10 transfused pts. (p = 0.03). The 10 pts. with NEC and the 28 pts. without NEC were similar for the above items, except that PMN transf. had been given to 10/28 of the non-NEC pts., and never to the NEC pts. (p = 0.03). It is suggested that PMNs transfusion prevents the occurrence of NEC in septic very low birthweight infants.

60 LEROYER*E., DAVID L., ANAST*C.S., DUBOIS*P.M. Laboratoire d'Histologie et Embryologie, Faculté de Médecine Lyon-Sud, Oullins, France, and Children's Hospital Medical Center, Boston, USA. Immunocytological evidence for parathyroid hormone (PTH) in human fetal parathyroid (PT) glands.

There is no indication on the stage of fetal development at which the PT cells acquire the ability to synthetize PTH. In order to gain such information, we performed immunocytological studies on PT glands from 29 normal 6 to 24 week-old fetuses obtained after legal abortion, and 1 anencephalic 35 week-old fetus. Antiserum (GP03) was obtained against bovine PT extracts in guinea-pig ; it cross-reacted with human PTH and was directed against the carboxy-terminal end of PTH. The immunofluorescent reaction was carried out by the indirect method, and its specificity was tested by the usual procedure. No immunoreactive PTH-containing cells were observed in the PT glands of the 6 fetuses younger than 10 weeks, in spite of the fact that organized PT glands were identified by histological method. By contrast, the PT cells gave constantly a fluorescent staining in all fetuses older than 10 weeks of gestation including the anencephalic fetus. All cells were immunoreactive either as a cellular peripheral edging or as a more diffuse cytoplasmic staining around the nucleus. No immunoreactive cells were observed in thyroid or thymic parenchyma. Previous in vitro studies (Soothorne, Ann. N.Y. Acad. Sci., 120 : 669, 1964) suggested that PT function might be active at 12 weeks of gestation. Our data suggest that immunoreactive parathyroid hormone is synthetized by PT gland as early as 10 weeks of gestation, and is present as well in the anencephalic fetus.

61 F.LAURENTI*,R.FERRO*,P.COLARIZI*,M.MENDICINI* G.ISACCHI*,F.MALAGNINO*,M.ROSSINI*,and G.BUCCI. Instit. of Pediatrics and Hematology, Univ. of Rome,Italy. POLYMORPHONUCLEAR LEUKOCYTES (PMN) TRANSFUSION FOR THE TREATMENT OF NEONATAL SEPSIS.

25 newborns with bacterial sepsis received from 2 to 14 transfusions (20 ml/kg of a suspension containing .5-1 x 10^9 PMNs, and less than 6% lymphocytes, obtained by continuous flow filtration leukapheresis). Results were compared with findings in 40 septic newborns not treated by PMNs transfusions (GROUP B). GROUPS A and B were comparable with respect to clinical characteristics and etiology (in most cases a highly antibiotic-resistant Klebsiella). The mortality rate was lower in GROUP A than in GROUP B (8% vs 70%, $p < 0.001$). The same was true when comparing infants weighing ≤1500 g (8% vs 83%, $p < 0.001$) or >1500 g (8% vs 50%, $p = 0.02$). Major complications and associated conditions (i.e. NEC, meningitis, pneumonia, peritonitis, osteoarthritis, DIC) were observed in 18 patients of GROUP B, and only in 3 of GROUP A. Untoward effects attributable to the PMNs transfusion were never observed. It is concluded that PMNs transfusion represents an highly effective treatment of neonatal sepsis. (C.N.R. project MPP3, n. 79.010.022.83).

62 O. LINDERKAMP, H.J. KLOSE*, K. BETKE, G. FUHRMANN*, C. GALANOS*, S. KELSON*, W. MARGET*, and K.P. RIEGEL. Children's Hospital, University of Munich, Germany. Effect of neonatal sepsis, endotoxin and exchange transfusion on the deformability of red blood cells.

Exchange transfusion may markedly improve the condition of newborns with sepsis. The exact mechanisms involved are not completely understood. We have studied viscosity (cone-plate viscometer) of red blood cells (RBC) suspended in plasma and albumin solution at a hematocrit of 0.60±0.01 in 10 newborns with gram negative sepsis before and after exchange transfusion with 150 ml of fresh blood per kg. Viscosity (in cP at shear rate 11.5 sec^{-1}) of RBCs in plasma and albumin solution was significantly increased ($p < 0.005$) before exchange transfusion when compared with the values after exchange transfusion, and to those of normal newborns and donors (x̄±SD):

	normal newborns (n=13)	newborns with sepsis (n=10) before ET	after ET	donors (n=10)
in plasma	11.4±1.4	15.3±3.0	11.8±1.5	11.7±1.0
in albumin	9.1±0.7	11.5±2.0	9.4±1.1	8.6±0.9

In experimental studies, RBCs were exposed to lipid A (core of endotoxin) *in vitro* and *in vivo*. Deformability of RBCs was studied using the rheoscope which allows direct microscopic observation of flowing RBCs. 2 to 1,000 µg of lipid A per ml of RBCs produced marked rigidity even under high shear forces. Deformability of RBCs was markedly decreased in 4 of 7 rabbits after i.v. injection of 100 µg of lipid A per kg. Removal of endotoxin-loaden rigid RBCs may be involved in the beneficial effects of exchange transfusion.

63 A. LIPPMANN*, W. MÜLLER*, and C.H.L. RIEGER* (intr. by: J. Brodehl). Immunity to diphtheria in children and adult women. Kinderklinik der Medizinischen Hochschule Hannover, 3 Hannover 61, W.-Germany.

Immunity to diphtheria was assessed in 3 groups of 50 children (gr.I: 1.5-5yrs, gr.II: 6-10yrs, gr.III: 11-15yrs) and in 109 women of childbearing age (gr.IV). Antibodies were determined by the Farr-assay. ^{125}I-diphtheria toxin labelled by a modified Chloramin T method and purified on Sephadex G100 was used at a concentration of 4 ng toxin-N/ml. Antibody was considered present if sera bound > 10% of ^{125}I-toxin. If > 33% of ^{125}I-toxin was bound, an antigen binding capacity (ABC 33) was calculated and expressed as ng toxin-N bound by 1ml of serum. By this method the ABC 33 of 0.1 unit of the standard antitoxin (the assumed protective level) was 95 ng toxin-N/ml, i.e. about 100 times the amount of antibody detectable by the assay. The percent of individuals with protective levels and the mean ABC 33 values of the 4 groups are shown in the table.

groups	I	II	III	IV
%sera with ABC>95	82	68	50	29
mean ABC 33 (ng Toxin-N/ml)	1417 ±1659	2385 ±6536	1989 ±2998	237 ±435

The observed decline of protection calls for an improvement of immunization procedures particularly in school-age children. Supp. by DFG-Grant Ri 345/1.

64 PELTONEN, RAILI* and PELTONEN, TUOMAS Departments of Pediatrics and Public Health, University of Turku, Turku, Finland.

Number of births, social abortions and adoptions in the years 1957 - 1977 in Finland.

The patterns of legal abortion rates (per 1000 women) and abortion ratios (per 1000 births or pregnancies) vary widely among countries. The rapid rise in the number of abortions reported in all countries after a liberalization of their abortion laws reflects in part a replacement of unwanted births by abortions.
In the year 1957 in Finland there were 88000 births and 4550 abortions. The birth rate was 18.5 (per 1000 inhabitants) and abortion ratio 54.5. Only the medical reasons were accepted for abortion. After the liberalized law the number of induced abortions rose very rapidly to 23000 and abortion ratio to 408. The number of births fell to 57000. The most part of the reasons for abortion (90 - 95%) were social. During few years the development has been more advantageous. In the year 1977 abortion ratio was 270. During the same period the adoption was rare. Only 120 - 220 couples per year had a possibility to adopt the baby.
The results are presented in diagrams.