Collapse of the trachea may be suspected when the newborn child makes a series of respiratory movements without effect. Adequate treatment is, of course, to induce air flow into the trachea by pulling the tongue forwards, by mouth-to-mouth breathing, or by intubation.

A Case of Congenital Lymphoid Hyperplasia.
W. L. DONOHOE (Toronto).

Polycystic Disease of the Liver and Kidneys in Childhood. B. G. OCKENDEN and H. BLYTH (The Hospital for Sick Children, Great Ormond Street, London). A combined genetic and morbid anatomical study has been made of children with cystic malformation of both renal tubules and hepatic bile-ducts (polycystic disease of liver and kidney). 27 families have been studied in which the diagnosis has been confirmed histologically. Dominant inheritance is likely in 1 family and 6 others fall into this group on histological grounds. In 20 families an autosomal recessive pattern of inheritance is indicated. On clinico-pathological grounds the latter fall into four contiguous subgroups. Within individual families the type of disorder appears to breed true, therefore these subgroups are likely to be due to different recessive genes.

Relationship in Anencephaly between the Size of the Adrenal Gland and Length of Gestation. K. M. LAURENCE, A. B. N. ANDERSON, and A. C. TURNBULL (Welsh National School of Medicine, Cardiff). Evidence in the human fetus that the pituitary-adrenal axis is concerned in regulating the onset of labour may be obtained indirectly from observations in anencephaly.

A retrospective study was made of the 8 cases of anencephaly delivered at the Cardiff Maternity Hospital between 1959 and 1967, which were not complicated by hydramnios, and where the length of gestation was not in doubt and labour started spontaneously or was induced more than 4 weeks past term. In only one case did labour begin before term and in 5 of the remainder gestation was prolonged. In the 2 with the longest gestations, even to induce labour was difficult. Adrenal weights varied from 2.4 g. in the one with the shortest gestation, by even progression to 0.2 g. in the one with the longest gestation. The fetal (X) zone in the former was of almost normal dimensions and appearance. In the smaller glands there was a progressive diminution in the size of the zone. A histologically normal though small anterior pituitary gland was identified in all but one case; no posterior pituitary gland or hypophysis was found in any case.

A varying anterior pituitary stimulus is implied by the size of the adrenal, and it is suggested that a low pituitary-adrenal activity is associated with prolonged pregnancy and that the fetus to some extent determines the time of onset of labour.

Adrenal Hypoplasia during the Perinatal Period.
C. B. F. DAAMEN (Rotterdam). In 88% of our 61

cases of anencephaly (2.9% of our material) there was coexistent hypoplasia of the adrenals, with more pronounced decrease of the fetal cortex.

Hypoplasia of the adrenals may be less pronounced in anencephaly before the 28th week of pregnancy.

In disorders of the whole primitive brain as well as in disorders of the distal part of the primitive brain there exists a preponderance of females. In disorders of the anterior part of the primitive brain there exists a preponderance of males (Hamersma, 1966). In anencephaly postmaturity is frequent (18%). During birth mortality is high. Congenital hypoplasia of the adrenals without developmental disorders in the primitive brain was present in 2.5% of our perinatal mortality cases (2739 cases). In these the histological structure of the adrenals was similar to that found in anencephaly.

There was a preponderance of males and postmaturity. Advanced maternal age was frequent. All our 7 cases of 'isolated' adrenal hypoplasia died on the first day of life, and cyanosis was an obvious clinical feature.

REFERENCES

Hamersma, K. (1966). Anencephaly and spina bifida. Thesis. University of Leiden.

Functional Activity of the Fetal and Neonatal Rat Pituitary and Adrenal Cortex. A. SCHABERG (Department of Pathology, University of Leiden, Netherlands). Making use of the organ culture technique, three groups of experiments were performed. Anterior pituitaries of 1-week-old rats were cultured for a period of 3 weeks and then transplanted to the sella turcica and under the renal capsule of 6-month-old hypophysectomized rats. At the time of transplantation the cultured explants had lost their specific functional activity, and consisted of completely degenerated cells. Five months after the transplantation the surviving animals were killed. Sections were made of the sites of transplantation. The corticotrophic activity of the transplanted cultures was assessed by measuring the difference in weight between the left adrenal removed 10 days before the animal was killed and the right adrenal at the time of death. In 4 of the 5 surviving animals vascularized masses of well-differentiated chromophil and chromophobe cells were found in the sella turcica. The implants under the capsule of the kidney consisted entirely of undifferentiated cells. 3 of the 4 animals with viable sella turcica implants showed compensatory hypertrophy; such a hypertrophy was not observed in rats with implants under the renal capsule. These experiments suggest that the anterior pituitary can only maintain its activity for a short time if there is no contact with the neural hypophysis and hypothalamic area. The activity is reinitiated if the contact is restored. The adrenal cortex reacts to the reinitiated activity.

Fragments of the adrenal cortex of young rats were cultured in contact with fragments of the anterior pituitary of newborn and fetal rats. The amount of corticosteroids released over a period of 3 days was measured. The results showed that 19-day-old fetal rat pituitaries can produce corticotrophic hormones.