

proportionately increased, and in a case of pernicious anæmia during a blood crisis the granulated cells reached 18.8 per cent. The blood of newly born infants contained sometimes as much as 7 per cent. of granulated cells, but after several days they decreased to about 3 per cent. In various acute infections the granulated cells were seen in about the same proportion as in normal blood. Thus, their increase seemed always dependent upon the presence of nucleated red cells. The blood of embryo pigs contained about 17 per cent. of granulated erythrocytes. A study of the blood of geese and pigeons showed that as the nucleus of the erythrocytes degenerated, granules staining in the same manner as the chromatin of the nucleus appeared in the protoplasm and became scattered through the cell. The changes above described could not be demonstrated so readily in fixed specimens colored by Wright's, Jenner's, or Leishman's stains, and it is possible that during fixation the granules seen in the fresh preparations are broken up, and produce in the stained specimen the well-known appearance of polychromatophilia. The author after careful study does not believe that these granules are artefacts, but considers them as the remnants of the nuclear chromatin which has been set free in the red cells during the dissolution of the nucleus. Observations upon the blood platelets carried along the same lines go to show that these bodies react toward stains in precisely the same manner as do the granules in the red cells. This suggests that they too are derived primarily from the nucleus of the nucleated erythrocytes.

The Casuistry of Placental and Congenital Tuberculosis.—WARTHIN and COWIE (*Journal of Infectious Diseases*, 1904, vol. i. p. 140) discuss this important and interesting question. They report a case, together with abstracts of those cases from the literature which bear upon the subject. They show that the question of congenital tuberculosis, although definitely proved, has but 6 cases, including their own, to support it, in which the diagnosis is based upon anatomical changes and the presence of tubercle bacilli; in which the development of the lesion occurred so shortly after birth as to preclude the possibility of extrauterine infection, and in which syphilis was definitely excluded.

They also give abstracts of 35 probable or doubtful cases from the literature, which do not fulfil all the foregoing requirements, 8 undoubted and 1 probable case of placental tuberculosis, and 16 undoubted and 8 doubtful cases in which tubercle bacilli were found in the foetus and placenta without histological changes.

In their own case the authors found miliary tuberculosis of the mother in the fifth month of pregnancy, tuberculosis of the placenta, and agglutination thrombi, containing many tubercle bacilli in the placenta and in the foetus. As a result of their study, they conclude that the conditions of the circulation in the placental and uterine sinuses favor the collection of tubercle bacilli when present in the maternal blood, and that when the organisms are capable of multiplication, the first step in the development of tuberculosis of the placenta appears to be an agglutination and coagulation thrombosis of the maternal blood in the intervillous spaces. They believe that the syncytium possesses a certain degree of resistance against tubercle bacilli, and, although the passage of the tubercle bacilli through an apparently normal syncytium is still an open question, the senile degenerative changes in it during the later half of

pregnancy favor the passage of the organism through the syncytium. Their findings show that tubercle bacilli, virulent to guinea-pigs, may be found in the chorionic villi and fetal blood without marked pathological changes in these structures. They assume that the fetal tissues are relatively immune to the action of tubercle bacilli, and that a true latent congenital tuberculosis is, therefore, both possible and probable.

The authors believe that the commonly accepted dicta regarding congenital tuberculosis are probably extreme, and that it is not at all unlikely that it is of much more common occurrence than is generally supposed.

Islands of Gastric Mucous Membrane Having the Structure of the Glands of the Cardiac Zone and Region of the Fundus and Glands Simulating the Lower Oesophageal Cardiac Glands in the Upper Portion of the Oesophagus.—SCHRINDE (*Virchow's Archiv*, 1904, Bd. clxxv. p. 1) has found certain gland structures in the mucous membrane of the oesophagus in 21 out of 30 cases examined. They are usually bilateral and occur in the upper portions of the oesophagus. They are difficult to find macroscopically in the fresh state, but after the oesophagus has been fixed in Müller formal solution the glands assume a deep-brown color, while the mucous membrane of the oesophagus is bright yellow. Three varieties of glands can be distinguished: one type is like the lower oesophageal cardiac glands; it appears as branched tubules situated in the mucosa and opening out by ducts upon the surface between the pavement epithelium covering the papillæ. The tubules are lined by columnar epithelium possessing nuclei placed near the basement membrane. In the ampullæ there are cells which give a definite reaction for mucus. Finally, the presence of isolated covering cells can be made out. The second type of gland resembles very closely the glands in the cardiac region of the stomach. The third type, which appears important and rather rare, practically reproduces the gastric mucous membrane, and contains glands similar to those found both in the cardiac region and in the fundus. Small lymph follicles may be found, and the entire structure seems to be identical in its histological appearance and secretory functions with the normal mucous membrane of the stomach.

The author believes that the epithelial covering of the oesophagus and of these gland structures takes its origin from two absolutely different sources. The glands are thought to develop from the entoderm, while the oesophagus is covered by ectoderm extending down from the pharynx.

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