PULMONARY TUBERCULOSIS IN AN INFANT.

BY

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THE following case presents points of interest both from the distribution of the lesions and the knowledge of the source of the infection.

The mother of the baby developed a cough in the fifth month of pregnancy, and the diagnosis of pulmonary tuberculosis was made. The child was born at full term on February 27th, 1921, and was immediately taken away to be looked after by the mother's sister, who lived in a different house; it was taken to the mother nearly every day, but remained in the room with the mother for about ten minutes at each visit. The mother took the baby in her arms, but was careful not to kiss him on the lips. She died from pulmonary tuberculosis on April 19th, 1921.

The baby was at first fed on diluted cow's milk, but as he did not thrive he was given condensed milk diluted to a suitable strength. Wasting became more marked, and signs were detected in the lungs by Dr. Brown, assistant M.O.H. of Barking. The baby was admitted to the East London Hospital for Children, under the care of Dr. Clive Riviere, on May 6th, 1921, when aged 9 weeks.

Condition on Admission.—Wasting was marked; the weight was 6lb. 4oz. The stools were loose and offensive. In the left lung there was a small area of impairment of the percussion note below the inferior angle of the left scapula; the breath sounds were higher pitched over this area, but no added sounds were heard.

Subsequent History.—At the end of a fortnight the weight was 5lb. 14oz. The temperature varied between 97° and 99° F., the pulse rate between 110 and 140, and the respiration rate between 40 and 50. Otherwise its condition was little changed. Diarrhoea and vomiting set in and the child died on May 23rd, 1921. The temperature was above 101° F. on two occasions before death; the pulse gradually became rapid, weak, and imperceptible; the respiration rate remained at 40.

Post-mortem Examination.—The body was very wasted. As regards the brain, there was nothing to note. In the heart a probe passed through a valvular foramen ovale. In the right lung a few areas of partial collapse were present posteriorly. In the left lung there was an area 1 cm. square of tuberculous consolidation, partly caseous at its centre, situated on the exterior and posterior surface of the left lower lobe, near the apex of the lobe. From the consolidated area miliary tubercles extended. By palpation and section the caseous mass could be traced into caseous glands, of a size up to 1 cm. in diameter, in the hilum of the left lung. The right paravertebral glands and angular glands were enlarged up to 3 mm. in diameter. Parenchymatous degeneration was present in the liver. Several doubtful tubercles were found under the capsule of the spleen. In the kidneys parenchymatous degeneration was present. Thin buff-grey contents were found throughout the intestines; a score of shallow erosions 1 mm. in diameter extended along the line of the mesenteric attachment of the lower ileum; the mesenteric glands were 0.5 cm. in diameter.

Family History.—The mother's father died from "pneumonia" of fourteen weeks' duration in 1915. One of her brothers died from tuberculosis in 1908. Her sister and other brother are alive and well. The mother had one miscarriage two years before this baby was born.

I am indebted to Dr. Clive Riviere, under whose care the case was, and to Dr. R. Donald, pathologist to the East London Hospital, for permission to publish these notes.

The source of the infection was undoubtedly the mother, and mere proximity of the baby to the mother every day was sufficient opportunity for infection to occur, although it is to be noted that the child came of a tuberculous family. The tubercle bacilli gained entrance to the respiratory tract, presumably by inhalation, and gave rise to a caseating pulmonary tuberculosis, without general dissemination. Signs in the left lung were detected at the early age of two months, and death occurred from an intercurrent disease at three months.

THE Kenya Agricultural Census for the year ending June 30th, 1920, is the first report in respect of the agricultural, dairying, and pastoral industries of that colony and protectorate. Some six million acres have been set aside for the occupation of Europeans, including half a million acres allotted for the settlement of discharged soldiers; about half this was occupied when the census was taken; the area under actual cultivation was over 176,000 acres; much of the remainder was devoted solely to stock raising. The Census shows that the colony is progressing favourably in spite of the hard times from which all countries are suffering as a result of the war; with settlement of the local currency question a further improvement in the outlook for Kenya Colony may be expected.

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SECTION OF PATHOLOGY AND BACTERIOLOGY.

Professor MATTHEW J. STEWART, M.B., M.R.C.P.,
President.

DISCUSSION ON HAEMOCHROMATOSIS.

OPENING PAPERS.

I.—JOHN SHAW DUNN, M.D.Glas.,

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THE term haemochromatosis has come to be applied to a peculiar morbid condition, characterized by accumulation of free iron-containing pigment in certain parenchymatous organs and in the skin, associated with interstitial fibrosis of the liver and pancreas; in a certain number of cases glycosuria develops. A discussion of the pathology of the condition may best be introduced by a description of the morbid appearances in a well marked case. The skin, especially of the exposed parts of the body, exhibits a brownish or greyish-brown pigmentation. The liver is more or less cirrhotic, but is usually not much, if at all, diminished in size. Ascites may be present if the cirrhosis is advanced. The liver has a peculiar rusty colour, which may be fairly homogeneous, or may be paler in small rounded nodules which represent hyperplastic liver tissue. When tested for the presence of free iron by immersion in a mixture of potassium ferrocyanide and hydrochloric acid the liver tissue gives an intense Prussian-blue reaction. The pancreas shows a rusty colour similar to that of the liver, though less marked, and also gives an intense reaction for free iron. The retroperitoneal lymphatic glands in the upper part of the abdomen are even more intensely rusty in colour than the liver, and are laden with iron pigment. Most of the other organs, even although they may not be obviously pigmented, give the iron reaction on testing. The spleen reacts intensely; the heart, lungs, stomach, and thyroid may show a fairly deep coloration; the kidneys usually react rather faintly, as do the intestines and the skin. The peripheral lymphatic glands in the neck, axillae, and groins usually show little or no coloration. In cases where the bone marrow is examined it is usually observed that there is no special overgrowth of red marrow, the condition being in marked contrast to that observed in pernicious anaemia and other haemolytic conditions in which free iron is deposited in the viscera.

Histological examination of the organs reveals the presence of brown granular pigment in proportion to the strength of the iron reaction seen on testing macroscopically. In the cirrhotic liver large amounts are seen in the hepatic cells in fine separate granules, and larger masses are present in great abundance in the overgrown fibrous tissue of the portal tracts. If sections are treated with the iron-testing reagents the pigment granules give the iron reaction, but it is observed that if cold hydrochloric acid is employed it is only the granules in the liver cells which give an intense blue colour, the pigment in the fibrous tissue colouring only a greenish-brown. If hot hydrochloric acid is used all the pigment gives an intensely blue colour, showing that all of it is highly ferruginous, but that that in the portal tracts is less accessible to chemical reagents than the rest. In the retroperitoneal glands the pigment, which occurs in great excess in phagocytic cells in the lymph sinuses, reacts feebly with cold acid but intensely with hot acid. It would therefore appear that the iron moiety of the pigment is more free chemically when first deposited in the liver cells, and becomes more firmly combined with protein material when it is taken up by phagocytes and carried to the lymphatic system for disposal. In the pancreas the cells of the glandular acini, and the islets of Langerhans, as well as phagocytic and other cells in the overgrown fibrous tissue, are laden with