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## CONGENITAL TUBERCULOSIS

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The diagnosis of congenital tuberculosis is rare in this country. Probably the first case was reported by Schmorl and Birch-Herschfeld in 1890 (1). In 1935, Beitzke (2) analysed one hundred cases from the literature and showed that only sixty-one of these were proven. He set up definite criteria which will be quoted: 1. The nature of the lesion must be proved. 2. A primary complex in the foetal liver is proof of congenital tuberculosis since it can only have arisen from tubercle bacilli in the blood of the umbilical vein. 3. If there is no primary infection of the liver, a diagnosis can be made only, first, if there are tuberculous changes in the foetus in utero, at birth, or within a few days of birth, or, second, in a child who lives longer than a few days, if extra-uterine infection can be excluded with certainty, the child being immediately separated from the mother, and kept in an environment free from tubercle bacilli. Jordan and Spencer (3) in 1949, distinguished two main types,—infection reaching the foetus by way of the umbilical vein, and infection arising from infected amniotic fluid with ingestion of the bacilli. Loewenstein (4), in 1935 cultured the blood of fifty-nine parturient women with pulmonary tuberculosis, together with the blood from the umbilical vein, and found positive cultures for tubercle bacilli in both bloods in eleven cases. The suggestion is apparent in this work that some congenital tuberculosis is not fatal if the infection is mild. If the child survives the first twelve months, resistance to the tubercles may become sufficient to allow healing and complete recovery. Siegel and Singer (5), however, in 1935, attempted to demonstrate tubercle bacilli in infants of mothers with far advanced pulmonary tuberculosis. Careful cultures were made of the infants blood at birth in the fifteen cases studied. There was only one positive culture, and in this case, the placenta itself was tuberculous. They concluded that tubercle bacilli seldom passed the placental barrier. Hughesdon (6) in 1946 reported four new cases, and reviewed 115 proved cases. It is interesting to note a large series presented by Elizalde and Latienda (7) in 1945. Sixteen cases were reported in which the infants were immediately separated from their mothers, and cared for under strict conditions. Additional cases (3,8,9, 10,11,12,13,14) have appeared bringing the total at least to 144. This subject has been brought to our attention by the following child.

Infant Dennis B., Case Number 560714, age 14 hours, was admitted to the hospital for boarding care. He was born at the Pontiac State Hospital where his mother was a mental patient also having tuberculous peritonitis. He weighed six pounds at birth, and left the Pontiac Hospital at 12 hours of age, having had no contact with the mother after delivery. Physical examination on admission showed a normal white male infant with temperature of 98° F. The course in the

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hospital was uneventful with adequate weight gain until the fifteenth day, when the baby had a temperature of 101.8° F. Examination revealed occasional moist rales in both lung fields, and moderate serous nasal discharge. Penicillin and sulfadiazine were started but the fever did not decline. A chest x-ray revealed a generalized pneumonia, with some atelectasis. After two days of streptomycin, the temperature reached normal on the twentieth hospital day. He continued to take formula well, but his weight gain was interrupted. His temperature was normal until the thirty-second day. X-ray of the chest now showed a generalized nodular type of infiltration scattered throughout both lung fields. Tubercle bacilli were isolated from the gastric washings. Guinea pigs inoculated with the gastric washings showed tuberculosis of the spleen and lymphatic glands. The patient followed a progressive down-hill course, despite continued streptomycin and supportive therapy, and expired on the one hundred and fifth hospital day.

Post mortem study showed on the visceral pleura of the lungs, numerous firm, yellow, purplish nodules. These nodules were present everywhere in the parenchyma causing great increase in density throughout. The nodules measured 1.0 cm. in diameter and often contained yellow soft material. The bronchi contained purulent yellow fluid which was at times bloodstained. The bronchial nodes appeared to be involved. In the fascia around the hilus of the spleen, tubercles were visible. No gross pathology was apparent in the liver.

Microscopic examination of the lung sections showed marked involvement by tubercles characteristic of this disease. They were numerous and seen throughout the lung fields, including the bronchial nodes. Some tubercles showed signs of healing characteristics of streptomycin therapy. A few small tubercles were seen in the spleen, and also infrequent small tubercles in the liver. No other areas of tuberculosis were found in the body.

This is a case of congenital tuberculosis satisfying the criteria of Bertyke (1). The tuberculous lesion was proven. The infant was separated from his mother immediately and kept in an environment free from tuberculosis. Every nursery attendant was x-rayed. As the lesions were primarily pneumonic, the infection by all odds probably entered by inhaled and ingested infected amniotic fluid, the second type of Jordan and Spencer (2). This discussion and case are presented because the condition is extremely rare in our country.

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