

treatment of choice should further cases of this rare infection by a common saprophyte be brought to light.

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REFERENCES

- Breed, R. S., Murray, E. G. D., and Hitchens, A. P. (1948). *Bergey's Manual of Determinative Bacteriology*, 6th ed., p. 479. Baillière, Tindall and Cox, London.
- Castaneda, M. R. (1947). *Proc. Soc. exp. Biol., N.Y.*, **64**, 114.
- Hughes, M. H. (1953). *W. Afr. med. J.*, **2**, 94.
- Patterson, R. H., Banister, G. B., and Knight, V. (1952). *Arch. intern. Med.*, **90**, 79 (bibliography).
- Wheat, R. P., Zuckerman, A., and Rantz, L. A. (1951). *Ibid.*, **88**, 461.
- Wilson, G. S., and Miles, A. A. (1946). *Topley and Wilson's Principles of Bacteriology and Immunity*, 3rd ed., vol. 1, p. 631. Arnold, London.

Medical Memorandum

Congenital Tuberculosis after Pleural Effusion in the Mother

A woman aged 23 was admitted to a general hospital with a left pleural effusion on December 1, 1949, when five months pregnant. There was no family history of tuberculosis or known contact. She did not remember having had any illness until July, 1949, when her husband was at home on leave and she had a cold and lost weight. In the early weeks of her pregnancy she gained weight, but began to get pains in the left chest in October. The findings on aspiration of approximately 500 ml. of straw-coloured fluid were: red cells, moderate numbers; lymphocytes, fairly numerous; polymorphs, nil. The blood picture was: haemoglobin, 64%; leucocytes, 8,000 (polymorphs 66%, lymphocytes 30%, monocytes 3%, eosinophils 1%). There was nothing abnormal on urinary examination. On January 7, 1950, after the illness had run a typical course, she was discharged home, afebrile, to await admission to a sanatorium.

On February 7, when admitted to a chest hospital, she was symptomless. The physical signs were those of a small pleural effusion, the anaemia persisted, and the sedimentation rate was 18 mm. (Westergren). Radiologically an opacity remained in the left lower zone. Treatment was by rest and haematinics whilst the pregnancy proceeded uneventfully to full term.

On April 17 she complained of generalized aches and pains and there was an evening pyrexia to 99.2° F. (37.3° C.). Next day the symptoms were improved, and on the 19th she went into labour and was delivered of a normal female child the same day, after transfer to the maternity hospital. The child was isolated. The placenta was examined and recorded as "complete." During the puerperium she had an evening pyrexia of 101° F. (38.3° C.) and was readmitted to the chest hospital on April 25, when treatment was begun with streptomycin, 1 g. daily, and 18 g. of para-aminosalicylic acid. On April 27 the baby died, aged 8 days.

FINDINGS AT NECROPSY ON THE BABY

The body was well nourished and of normal colour. About 5 ml. of clear yellow fluid was present in both pleural cavities, and a little less than 5 ml. in the peritoneal cavity. Both lungs showed severe congestion and oedema. Weight, right 62 g., left 58 g. Dispersed throughout the lung substance of both sides and beneath the pleural surfaces were miliary tubercles consisting of grey-yellow areas 2-3 mm. in diameter and some the size of a small pinhead. The tubercles were either one size or the other, there being none of intermediate size.

The heart showed no congenital or acquired abnormality. The peritoneal cavity contained about 10 ml. of free fluid. There was matting together of the structures around the spleen and yellowish-white exudates were present in small amount. The spleen weighed 35 g. and measured 7.5 by 4

by 3 cm. It was engorged and contained tubercles similar in size to those in the lungs. A direct smear from the cut surface revealed many tubercle bacilli. The liver weighed 260 g., and contained tubercles throughout, and beneath its peritoneal surface. The most interesting feature of this organ was the presence of a mass of glands in the hilum. These measured 3 by 2.5 by 2 cm. The cut surface was yellow and caseous-looking. The kidneys, bladder, uterus, and alimentary tract appeared to be normal. The brain was not congested and seemed normal in every respect, no evidence of tubercle being present.

PROGRESS OF MOTHER

The woman continued to have an evening pyrexia until June 15, by which date 50 g. of streptomycin had been given. Apart from the pyrexia the post-puerperal period continued normally, but the reappearance of menstruation was delayed until August 12. No abnormal physical signs were present in the chest, and radiography demonstrated only a clearing of the pleural opacity. Clinical improvement with a gain in weight began with the subsidence of the pyrexia, but chemotherapy was continued until August 28, when 120 g. of streptomycin had been given. At this time no clinical or radiological abnormality could be detected. She was discharged home on October 19, apparently a healthy woman, the sedimentation rate being 4 mm. (Westergren) and her weight 128 lb. (58 kg.).

Subsequent progress during 1950 was uneventful and her weight increased to 143 lb. (64.8 kg.). On February 26, 1951, a laparotomy was performed and section of the Fallopian tubes and appendectomy were carried out. No abnormality of the pelvic organs was detected. Progress was again uneventful until December, 1951, when a fluctuant swelling was detected in the left breast. At incision in February a localized abscess was removed.

Microscopically, non-specific chronic inflammation was reported and culture of the material evacuated remained sterile, but a sinus persists, although the patient remains well three and a half years after the birth of her child.

COMMENT

The primary lesion in the hepatic glands of the infant is consistent with haematogenous infection via the placenta, whilst its size and maturity would suggest that it originated a considerable time before birth, probably coincident with the onset of pleurisy in the mother. The miliary tuberculosis in the lungs, spleen, and liver would seem to be a secondary haematogenous dissemination in which the mother shared infection just before delivery, the usual effects of such dissemination being suppressed by streptomycin.

Any typical primary focus other than the pleural effusion in the mother remains undisclosed, but it has been shown (Kayne *et al.*, 1948) that quite a large proportion of "idiopathic" pleural effusions occur in close time relationship with the primary infection.

This case contrasts with the almost invariable sequel of healthy infants born to mothers suffering from progressive, advanced, or miliary tuberculosis.

I am informed by Mr. L. E. Perkins that in veterinary practice congenital tuberculosis was not so uncommon and was found in association with primary tuberculous infection, usually believed to be in the uterus, rather than in association with established or widely disseminated tuberculosis.

CONCLUSIONS

Treatment by chemotherapy is justified in primary tuberculosis occurring in pregnancy. Routine B.C.G. vaccination at birth of babies born to such tuberculous mothers should be preceded by a Mantoux test.

I am indebted to Dr. J. F. Horley for the necropsy findings.

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REFERENCE

- Kayne, G. G., Pagel, W., and O'Shaughnessy, L. (1948). *Pulmonary Tuberculosis*, p. 348. Oxford Univ. Press, London.