of early and pronounced cyanosis in our case is thus of interest. In Abbott's series cyanosis was reported in 11 out of 13 cases; in only three was it severe, and in two it was terminal. In the nine cases of Rogers and Edwards (1951) cyanosis was mild or terminal in five cases, in three it was moderate, and in one it appeared at the age of 7 months—the child dying when 10 months old. Clubbing was reported in only one of Abbott's cases.

A systolic murmur was recorded in five of Abbott's series, and in one further case a continuous murmur was found. None had a thrill. A systolic murmur was present in all of the eight cases from the Mayo Clinic (Rogers and Edwards, 1951) in which the physical findings were recorded. In two of these it was accompanied by a thrill. In no case was a diastolic murmur found. Glendy *et al.* (1944) found an apical mid-diastolic murmur, which they regarded as due to blood flow through a relatively stenotic mitral valve into a dilated ventricle. Carns *et al.* (1941) and Greenberg (1949) reported similar diastolic murmurs to that found in our patient. Favorite (1934) recorded a diastolic murmur at the aortic area. We considered that the murmurs which we heard were most probably due to increased blood flow through the pulmonary artery, with some degree of regurgitation.

In our case the palpable pulmonary outflow, the split second sound with accentuation of the pulmonary element, the systolic thrill, and the systolic and blowing diastolic murmurs all suggested a diagnosis of Eisenmenger's complex. The diagnosis of cor triloculare biatriatum is one of considerable difficulty. Several authors have described particular radiological contours, but these appear to be far from constant. The electrocardiogram may show right or left ventricular preponderance (Rogers and Edwards, 1951). Catheter studies and angiocardiology are unlikely to distinguish the condition from Eisenmenger's complex. Miller *et al.* (1950) have diagnosed the abnormality in life, in a child of 5½. In their case only one vessel was seen leaving the base of the heart, the blood supply to the lungs arising from the descending aorta. They remarked that the "presence of only mild cyanosis at rest, the fluoroscopic contour of the heart, and the absence of murmurs are important signs in the clinical diagnosis of a single ventricle." However, all these points are open to doubt.

Summary

A case of cor triloculare biatriatum is described, with survival to 24 years.

The types of cor triloculare biatriatum are briefly described.

The findings in a number of other reported cases are discussed.

We wish to thank Dr. E. B. Jarrett, Dr. P. Hughes, and Dr. T. V. Cooper for permission to publish this case.

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Medical Memorandum

Perforation of Tuberculous Ulcer of Small Intestine

Perforation of the small intestine from any cause does not commonly occur, and perforation of a tuberculous ulcer is rare. Only a few original papers on this subject have appeared in the literature in the past fifteen years, recording a small number of cases all of which occurred outside this country. This makes the present case of interest.

CASE REPORT

A boy aged 14 was admitted to the Glasgow Royal Infirmary with a history that eight months previously he had experienced lassitude, lack of interest in his surroundings, and anorexia. X-ray examination of the chest at that time had shown the typical appearances of miliary tuberculosis; no clinical signs of tuberculosis had been found in the chest, abdomen, or central nervous system. He had been treated in hospital, and had received streptomycin.

Three and a half hours before his present admission he had suddenly had severe central abdominal pain, which had later moved to the right iliac fossa. He also complained of pain in the tip of the right shoulder. There was vomiting but no diarrhoea. On examination he was seen to be a small, pale, and toxic-looking boy. His temperature was 101.6° F. (38.7° C.) and pulse 160. The tongue was furred. There was generalized tenderness and rigidity in the abdomen, maximal in the right iliac fossa.

Operation.—A right paramedian incision was made. The peritoneal cavity contained thin yellow pus, and the appendix was inflamed as part of a general peritonitis, but was not the cause of it. There were numerous tuberculous ulcers lying transversely across the terminal ileum, tending to constrict the bowel: one ulcer ½ in. (1.3 cm.) from the ileo-caecal valve showed a perforation 4 mm. in diameter which was leaking ileal contents. The perforation was closed, the peritoneal cavity cleaned, the appendix removed, and the wound sutured.

The patient made a good recovery and was discharged on the twenty-third day after operation to another hospital to continue treatment for tuberculosis.

COMMENT

The rarity of perforation in tuberculous ulceration of the small intestine is probably in part due to the relatively slow pathological process (compared, for example, with enteric fever). This permits time for adequate fibrous tissue formation in the base of the ulcers, so that stricture formation is a commoner complication.

Ameuille and Duperrat (1937) published observations on 30 cases of perforated ulcerative enteritis combined with pulmonary tuberculosis. Ameuille and Chevalier (1939) recorded one case with multiple perforations. Galavotti and Diletti (1937) described a double perforation in one case, and Lamberti (1941) and d'Ovidio and Bellingi (1943) published comments on cases of perforated tuberculous ulcers (numbers unknown). Black (1943) and Dussaut and di Laudo (1944) have each described one case of single perforation.

The case under discussion resembled fulminating obstructive appendicitis in the clinical picture, but the abrupt onset of symptoms and the rapid progress of the toxic signs combined with the previous history of miliary tuberculosis gave a good pre-operative hint of the true pathology.

I am indebted to Mr. A. M. Clark for permission to publish these notes.

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