rence of jaundice in these reactions suggests that more often the shock-organ is the liver, probably because of the part played by that organ in the breakdown of the drug. It is, however, of interest to note that in two of the earliest descriptions of P.A.S. sensitivity reactions (Horne, 1949; Hemming and Stewart, 1949) one of the outstanding symptoms was an intractable dry cough; unfortunately, these patients were not x-rayed during their reactions.

The finding of cold agglutinins in the blood of the case reported above is of interest in view of the possible relationship suggested by Crofton *et al.* (1952) between Löffler's syndrome and other conditions, including tropical eosinophilia, which are characterized by the presence of pulmonary infiltrations and blood eosinophilia. Thus Viswanathan (1948) has drawn attention to the presence of cold agglutinins in the blood in tropical eosinophilia.

I wish to thank Dr. A. M. Sutherland for permission to quote from the hospital case record.

R. J. CUTHBERT, F.R.F.P.S., M.R.C.P.Ed.

REFERENCES

- Cayley, F. E. de W. (1950). *Lancet*, 1, 447.
 Crofton, J. W., Livingstone, J. L., Oswald, N. C., and Roberts, A. T. M. (1952). *Thorax*, 7, 1.
 Cuthbert, J. (1950). *Lancet*, 2, 209.
 Hemming, M., and Stewart, C. J. (1949). *Ibid.*, 2, 174.
 Horne, N. W. (1949). *Ibid.*, 2, 348.
 Jeffery, B., Borrie, P., and Macdonald, N. (1952). *British Medical Journal*, 2, 647.
 Madigan, D. G., Griffiths, L. L., Lynch, M. J. G., Bruce, R. A., Kay, S., and Brownlee, G. (1950). *Lancet*, 1, 239.
 Nagley, M. M., and Legg, M. H. (1949). *Ibid.*, 1, 913.
 Swanson, J. N. (1949). *Ibid.*, 2, 175.
 Viswanathan, R. (1948). *Quart. J. Med.*, 17, 257.

Embolism and Secondary Thrombosis of the Bifurcation of the Aorta

Cases of embolism and secondary thrombosis of the bifurcation of the aorta are uncommon. Patients with mitral stenosis and auricular fibrillation especially are candidates for embolism of this nature. Herrmann *et al.* (1943) gave a full review of the literature and discussed the clinical picture and treatment. They record that Fry (1939) reviewed 135 reported cases of embolism of the bifurcation of the aorta. They described five cases of their own.

When the embolus is large and the obstruction complete the clinical signs are well defined. In predisposed patients the occurrence of abdominal cramps should lead one to suspect movement of the emboli down the aorta. Lodgment of an embolus at the bifurcation of the aorta is characterized by sudden sharp pains in one leg and then in the other followed by paraesthesiae, coldness, blanching, lowered skin temperature, and absence of or greatly decreased femoral pulses. Herrmann *et al.*, however, emphasize that when the embolus is small and the obstruction incomplete a much less dramatic and less clear-cut clinical picture is presented. The length of time of survival, even after complete obstruction, the length of postponement of the development of gangrene, and the degree of gangrene are often surprising.

The following case is presented as an example of the insidious development of a clinical picture and of the possibly misleading nature of the initial symptoms and signs.

CASE REPORT

A woman aged 38, who had been complaining for a few days of pain in the region of the fifth metatarsal of the left foot, was seen by one of us (D. F. T.) on December 19, 1949. She had a history of rheumatic mitral disease and had had a right hemiplegia due to cerebral embolism in 1946. Examination revealed no swelling or deformity of the left foot itself, and no tenderness over the metatarsal region; definite pain on straight-leg-raising of the left lower limb; tenderness over the lumbo-sacral spine; and an ill-defined anaesthesia to pin-prick over the outer part of the foot. There was no evidence of interference with the circulation of the left lower limb. A differential diagnosis of left sciatic pain due to a lumbo-sacral lesion, or early thrombosis in the vessels to the limb, was made at that stage, and the patient was admitted to hospital. X-ray examination of the lumbo-

sacral region showed no abnormality. She was kept under observation and at first there was no change in her condition.

On December 28 tenderness over the metatarsal region of the foot was still present and there was also tenderness over the external popliteal nerve at the neck of the fibula. Straight-leg-raising on the left was still limited and painful, and the pain was felt in the foot. However, it was noted that, though the colour and temperature of the left foot were normal at rest, the foot became a little pale and cold after it had been moved passively for a few minutes. Mr. W. H. Bailey, who saw the case by request at this stage, agreed that no active treatment was indicated. On the following day the patient complained of increasing pain. Besides the pain in her leg and foot she also had pain in the left iliac fossa and left lumbar region. No pulse could be felt in either lower limb. There was tenderness in the left iliac fossa and in the left lumbar region. Her pulse was increasingly rapid. Later that day there was mottling of both lower limbs. Her respirations became rapid and laboured. She was obviously in severe pain. The following day she died.

Post-mortem Examination.—The body was well nourished. There was slight wasting of the right arm and leg, and some swelling of both ankles and feet. The right ventricle was moderately enlarged and hypertrophied. The left auricle was dilated and hypertrophied. The cardiac muscle was quite firm. The mitral valve was funnel-shaped, its orifice being extremely stenosed, the dimensions being approximately 1.5 cm. by 3 mm. There were no vegetations on the valve or on the posterior wall of the left auricle, nor were there any thrombi in either auricles or ventricles. In the aorta, from the level of the left renal artery to the bifurcation, was a firm ante-mortem thrombus which was firmly adherent to the wall of the vessel. A similar adherent thrombus was present in the left renal artery, and the smaller tributaries of the aorta. Below the bifurcation of the aorta, a recent red ante-mortem thrombus extended down the common iliac and into both external and internal iliac arteries. There was no atheroma of the aorta, its branches, the coronaries, or cerebral vessels.

Both kidneys presented many deep scars, the result of multiple infarction. The left kidney, with the exception of a small area at the inferior pole, presented the picture of recent complete infarction. The right kidney also contained a number of small recent infarcts. The spleen was deeply scarred and distorted and, if anything, was smaller than normal. The liver showed several large areas of congestion, the appearances of which were in keeping with recent infarcts. Both lungs showed large areas of collapse.

On opening the dura an encysted collection of cerebrospinal fluid was present over the left parietal lobe. Dissection of the brain revealed a large cyst of the left cerebral hemisphere occupying a subcortical situation, extending down to and destroying the internal capsule, and passing from the anterior part of the occipital lobe to the posterior part of the frontal lobe. Clearly this was the end-result of the infarction of three years ago.

Conclusion.—Mitral stenosis, hypertrophy of the right ventricle, infarction of the brain, liver, spleen, and kidneys, pulmonary collapse, embolism of the aortic bifurcation, and subsequent thrombosis of the aorta. The embolus was probably derived from a thrombus formed on the mitral valve, although there was no evidence of the thrombus formation on the valve when examined on the table.

Our thanks are due to Miss Jean Evison for her help in the preparation of this report.

R. B. T. BALDWIN, M.R.C.S., D.T.M.&H.,
 Pathologist.

DAVID F. THOMAS, F.R.C.S.,
 Orthopaedic Surgeon,
 Scunthorpe War Memorial Hospital.

REFERENCES

- Fry, F. W. (1939). *Amer. Heart J.*, 18, 57.
 Herrmann, G. R., Willis, J. G., McKinley, W. F., and Karotkin, L. (1943). *Ibid.*, 26, 180.