

DISSECTING ANEURYSM OF AORTA SUCCESSFULLY TREATED BY OPERATION

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The successful surgical management of dissecting aneurysm of the aorta has been recorded on 12 occasions. DeBakey (1956) has reported nine, Warren, Beckwith, and Muller (1956) two, and Swann and Bradsher (1956) one, all from the United States. A further successful case is recorded here.

Case Report

A shipwright aged 50 was at work, when he experienced a sudden severe pain in the front of his chest, radiating up to his neck. He felt very ill, but, without telling his mates, he mounted his bicycle and started for his home about a mile away. On the way his right leg became numb and felt useless, but he managed to reach home, by which time his right leg was in severe pain. He called in his doctor, who found him collapsed but conscious, with an absent right femoral pulse. The doctor considered the diagnosis of an iliac embolism and sent him immediately to hospital.

On admission he was collapsed and suffering great pain in the front of his chest, though his right leg was no longer

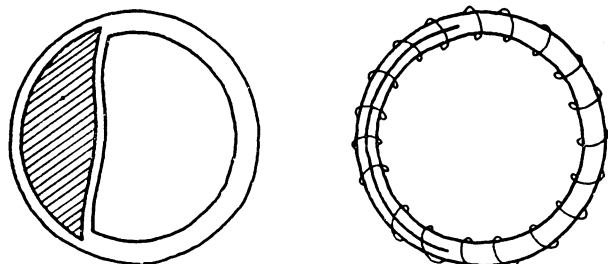


Fig. 1

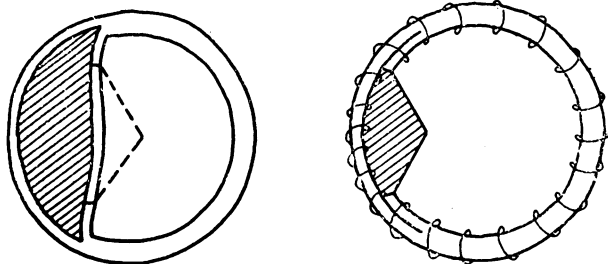


Fig. 2

painful. Clinical examination of the chest showed emphysema and chronic bronchitis. The pulse was 90 and regular; B.P. 180/110. The heart sounds, apart from an accentuated second aortic, were normal, and the heart was not enlarged. E.C.G. was normal. There were no neurological symptoms. The right leg was colder than the left, and the right femoral pulse and the pulses distal to this could not be felt.

The sudden onset of pain in the chest, followed by symptoms suggesting an acute ischaemia of the right leg together with severe collapse without significant hypotension,

and a normal E.C.G., suggested a dissecting aneurysm of the aorta. It was felt that operation was urgently demanded, and this was done just three hours after the first symptom had occurred.

Operative Procedure.—The right common femoral artery was exposed and found to be patent. Through a right paramedian incision the aorta, its bifurcation, and the common iliac arteries were exposed. The right posterior aspect of the aorta and the right common iliac artery had a bruised discoloured appearance. The upper limit of this was not traced further than just above the inferior mesenteric artery. The aorta and upper half of the right common iliac artery pulsated fully, but there was absence of pulsation in the distal half of the common iliac and external iliac arteries. Clamps were applied and the common iliac artery was divided. The distal clamp was released and the artery was found to be obstructed by intramural clot, which was readily expressed by massage. After a free retrograde flow was established the clamp was reapplied and the intima, where split from the adventitia, was stitched back into place (Fig. 1). A segment about the size of half a postage stamp was then excised from the inner wall of the aneurysm, proximal to the point of section of the iliac artery, to allow re-entry of blood into the lumen (Fig. 2). An end-to-end anastomosis of the reconstructed iliac artery was then done. The abdomen was closed after it was seen that a good pulsatile blood flow was present through the iliac vessels.

Convalescence was uneventful; there was no further chest pain after operation, the blood flow in the right leg gave no cause for anxiety, and the distal pulses were normal. The patient was discharged home four weeks later, and was well and free from symptoms 12 weeks after operation.

Comment

Reviews of dissecting aneurysm have been made by Shennan (1934), Creech, DeBakey, and Cooley (1956), and Warren *et al.* (1956), and reiteration would therefore be idle.

Nature's "cure" of rupture into the lumen of the aorta gives the clue to surgical treatment. It would seem proper to decompress the intramural aneurysm as high as possible—in the descending thoracic aorta just distal to the subclavian artery preferably, as most dissections start from a split in the intima just distal to the aortic valves. In the above case decompression was done in the common iliac artery and has been successful, though another case recorded in the literature, and similarly treated, was not (Gurin, Bulmer, and Derby, 1935). In those less common cases where the split in the intima occurs distal to the subclavian artery, it appears better to excise the aorta from above the split and inset a graft after suturing the intima to the adventitia of the lower thoracic aorta (Creech *et al.*, 1956). Decompression through an incision in the aorta makes difficult the approximation of the intima to the adventitia to prevent further dissection, a procedure which can be done satisfactorily only after complete transection of the aorta with subsequent resuture.

ADDENDUM.—Since this paper was written the patient has died. He lived for eight months and returned to his normal work. At post-mortem examination it was found that the artificial opening made by us at his operation was smoothed off and covered with an intima-like lining and was working efficiently. Death was due to a rupture of the aneurysm into the pericardial sac. This emphasizes what we suspected at the time—that decompression should be done at as high a level as possible.

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