

Correspondence

Letters to the Editor should not exceed 500 words.

Cine-angiography of the Mitral Valve

SIR,—At some time in our lives all of us have enjoyed the films, and one of the intense pleasures of modern cardiology is sitting at ease in an armchair examining the function of the mitral valve in the manner described in your leading article (4 June, p. 1377). However, it is dangerous to assume that the cardiologist's enthusiasm for the movies justifies his abandoning the older, simpler, and safer measures for the newer, more expensive, and most dangerous.

Naturally occurring cases of advanced rheumatic mitral disease—that is, those not previously submitted to surgical treatment—show the features of one of three syndromes. In the obstructive syndrome, amenable to treatment by valvotomy without perfusion, the diastolic murmur rumbles through diastole without varying much in loudness from its beginning at the time of mitral opening to its ending in the next cardiac cycle. Third heart sounds do not occur. The apex of the left ventricle moves the chest wall outwards slowly in diastole. Stasis waves are absent from the left atrial pressure pulse that may be obtained with relative ease and safety by Ross's technique of atrial septal puncture. The presence and magnitude of the opening snap depend upon the mobility of the central part of the aortic leaflet, and not upon the size of the mitral orifice.

In the syndrome of severe incompetence, the diastolic murmur begins with loud vibrations at the time of the third heart sound,¹ and it wanes as the left ventricular filling pressure gradient disappears in the period of stasis. Third heart sounds are loud, and accompanied by a palpable shock. The apex of the left ventricle moves the chest wall rapidly outwards to a peak at the time of the third heart sound, and this characteristic movement is not disturbed by the coexistence of aortic valvar disease or hypertension; indeed, it is enhanced by these factors, which increase the severity of the regurgitation. Nor is it true to suggest that studies of apical motion are "insensitive and may be misleading" when suitable apparatus is employed. An opening snap is usually present in these cases, and it indicates that the aortic leaflet is sufficiently mobile to permit the valve to be repaired.

A minority of advanced rheumatic cases present with a mixture of serious obstruction and regurgitation. Valvotomy worsens the condition by separating the cusps and permitting serious regurgitation; and rigidity of the valve tissue precludes reparative operations. The physical signs of this syndrome are characteristic. These points have been made by various authors and are reviewed in recent publications.²⁻⁴

It must be admitted that the physiological techniques employed for diagnosis—namely, phonocardiography and apex-motion record-

ing—require a higher degree of craftsmanship than left ventricular cine-angiography, but on the other hand they can be employed in the outpatient department or consulting-room; they do not require the patient to be admitted to hospital; they neither require the assistance of radiologist and radiographer nor enormous capital outlay. The experience of working in a surgical unit where the chief interest is mitral disease suggests that the diagnostic accuracy of the techniques may not lag far behind cine-angiography.

May I ask the author of your leading article if he has any evidence that will allow us to weigh the morbidity and mortality from "the direct and uncomplicated" left ventricular cine-angiography against the risks of phonocardiography and heart-pulsation recording?

With regard to left atrial myxoma, the diagnosis may be suspected from the history and the systemic disturbances, and then, for safety, an angiocardigram is performed with injection of contrast medium into the pulmonary artery. Injection into the left atrium may cause the friable tumour to disintegrate.

At present there is great interest in mitral incompetence caused by disease of the papillary muscles and chordae, where "untethering" of the aortic leaflet may prevent the development of the third heart sound reaction. In rheumatic disease the phonocardiogram and apex recording may be difficult to interpret where inadequate surgical treatment has modified the natural development of physical signs. It is in these areas that cine-angiography has the most to offer just now, but its contributions will have relatively little value if they are unaccompanied by the studies of the heart sounds and pulsations that in turn will enable us to make accurate diagnoses at the bedside.—I am, etc.,

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REFERENCES

- 1 Coombs, C. F., *Rheumatic Heart Disease*, 1924. Bristol.
- 2 Nixon, P. G. F., and Wooler, G. H., *Brit. med. J.*, 1960, 2, 1122.
- 3 ———, *Brit. Heart J.*, 1963, 25, 393.
- 4 ———, *Postgrad. med. J.*, 1964, 40, 136.

Muscular Pain During Therapy with Carbenoxolone (Biogastrone)

SIR,—We have recently observed what appears to be an unrecorded toxic effect of carbenoxolone (Biogastrone).

A 43-year-old shoe-shop manager was admitted on 8 September 1965 on account of haematemesis, and was found to have both a duodenal ulcer and a large lesser-curve gastric ulcer. He was transfused, 1 litre of whole blood being

given. On 15 September he started treatment with carbenoxolone, 100 mg. thrice daily, and ferrous sulphate, and was discharged on this treatment, together with an ulcer diet.

On 30 October he first noticed stiffness and cramp-like pain in the left side of the neck and the left upper arm, and later in the left thigh and calf. During the next 14 days the stiffness and pain increased in severity, involving the right side of the neck, the right upper arm, and then the right calf and thigh. The pain was disabling, kept him awake at night, and made movement of the arms difficult. On examination the muscles were tender but there was no obvious induration. There were no signs to suggest peripheral neuritis, and no change in the colour of the urine was noted. He had never previously had such symptoms. He was given first paracetamol, 1 g. four times daily, and later dihydrocodeine bitartrate, 60 mg. thrice daily. The dose of carbenoxolone was reduced to 50 mg. three times daily on 14 November, and the drug was finally stopped on 20 November. Two days later the pain began to subside.

Electromyograms recorded on 6 December from areas of residual tenderness in the right deltoid and brachioradialis muscles were compatible with myositis, showing an excess of polyphasic potentials of normal or short duration, some containing spike-like potentials. On 7 December a biopsy was taken from the right deltoid muscle and showed no histological abnormality.

The clinical features and the electromyograms were suggestive of myositis, but unfortunately the biopsy was not taken until recovery was almost complete. The prompt and sustained remission which followed the withdrawal of carbenoxolone suggests that the symptoms may have been related to treatment with the drug.—We are, etc.,

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Lysergic Acid Diethylamide

SIR,—As one who has used L.S.D. in the field of medical psychotherapy since 1954, I should like to comment on your leading article "The Effects of L.S.D." (18 June, p. 1495) and on Mr. J. P. Christen's reply to Dr. S. E. Browne (p. 1540).

It has been clear for some years that the use of L.S.D. in the United States by non-medical workers coupled with the increase of self-experimentation and the interest shown in the drug by quasi-religious groups must sooner or later be followed by similar phenomena in England. This has probably now happened, but in a less dramatic way and on a smaller scale than has occurred in America.

It must be borne in mind that L.S.D. has been used in many countries for a number of years without serious social consequences, and the recent use of hallucinogens obtained from "black market" sources must be seen in conjunction with the steep rise in the numbers of those taking drugs of addiction.