standard electrocardiograph. These samples, together with a report, were returned to the referring clinician.

Of the first 139 patients monitored, 15 records were unsuitable for analysis because of poor recording technique. The 124 patients successfully monitored all had symptoms suggestive of transient cardiac arrhythmias. These symptoms had not been identified by the referring clinician using conventional techniques. The patients were divided into two clinical groups. The first group comprised 64 patients with symptoms characterised by disturbances of consciousness, which were suggestive of Adams-Stokes attacks. The second group was composed of 60 patients with palpitations or other symptoms not including disturbances of consciousness.

The results are shown in the table. The incidence of serious arrhythmias requiring urgent therapeutic intervention was higher in the group of patients with more serious symptoms.

Comment

We found it possible to establish a viable 24-hour ECG monitoring service on a regional basis. No increase in medical or technical manpower was required, and the running costs were low—C120 cassettes are available to bulk purchasers at 75p or less. In providing a simple diagnostic service, we could keep the cost of equipment to a minimum by using a relatively unsophisticated analyser.

We had initially feared that recording techniques would be inadequate in peripheral hospitals performing sporadic investigations. These fears were proved groundless. Technical problems occurred with the portable recorders, as they were rather fragile. Nevertheless, technically unsatisfactory records were rare.

Initially the service has been both diagnostically efficient and technically satisfactory. In the current economic climate we suggest that this method may have much to recommend it.

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Bilateral atrial myxomas diagnosed preoperatively and successfully removed

Primary cardiac tumours are rare. Most are atrial myxomas, and about 75% of these arise in left atrium.¹ Diagnosis may be difficult and used often to be made at necropsy.² With improved diagnostic and surgical techniques these tumours have a good prognosis. We report the third successful preoperative diagnosis and removal of biatrial myxomas.^{3,4}

Case report

A 21-year-old woman presented in April 1973 with a history of headaches, depression, leg pains for six months, and a weight loss of 10 kg. Clinical examination was normal and the only abnormal laboratory findings were a haemoglobin of 11.4 g/dl and an ESR of 90 mm in 1 h. Her symptoms improved. Her second child was delivered in March 1974 with no obstetric or medical complications. During pregnancy her ESR fell to 33 mm in 1 h. Ten weeks post partum she complained of transient maculopapular rashes of both hands and feet. In January 1975 she was admitted with breathlessness on exertion, faintness, and excessive perspiration.

Clinical examination was normal. Abnormal laboratory results were: haemoglobin 10 g/dl, ESR 134 mm in 1 h, serum iron 3.6 μ mol/l (20 μ g/100 ml) (normal 9–32 μ mol/l (50–80 μ g/100 ml)), iron binding capacity 45 μ mol/l (250 μ g/100 ml) (normal 45–75 μ mol/l (250–420 μ g/100 ml)),

alkaline phosphatase 129 KAU/l (normal 28–100). Shortly after admission she had a pulmonary embolism and was given anticoagulants. During the next four months she became increasingly breathless, had frequent haemoptyses, and complained of dizziness, anorexia, and weight loss. She was breathless at rest and auscultation revealed a fourth heart sound, a loud first sound with a loud opening snap, and a systolic murmur, all maximal at the apex and not varying in intensity with position. Biatrial myxomas were diagnosed and a reversion of the heart sounds to normal and the development of a tricuspid systolic murmur were in keeping with the diagnosis.

Echocardiography showed a left atrial myxoma (figure). Angiocardiography showed poor filling of the left lower lobe pulmonary artery but was unable to define the left atrial myxoma. Surgery disclosed a gelatinous right atrial myxoma attached to the septum by a small stalk and prolapsing into the right ventricle. This myxoma was removed and an incision into the posterior part of the septum revealed a left atrial myxoma adherent to the septum by a small stalk opposite the site of origin of the right myxoma. Both consisted of polypoid masses of mucoid material covered by a single layer of endothelium. Nowhere did the appearance suggest a transition from thrombus to myxoma and none of the stroma cells had features suggestive of malignancy.

Echocardiogram showing presence of left atrial myxoma and abnormal echoes in right ventricle.

Comment

Eighteen cases of synchronous biatrial myxomas have been reported. Over 60% died before, during, or shortly after surgery. Awareness of the diagnosis and improved diagnostic and surgical techniques have resulted in a better prognosis for these tumours. Dyspnoea on exertion and peripheral emboli occur in over 50% of cases; syncope, dizziness, palpitations, and joint or muscle pains in 30%; and pulmonary emboli and oedema in 20%. Postural symptoms are infrequent. Angiocardiography in patients with a low cardiac output may not give enough contrast in the left atrium to outline the tumour and also has the danger of embolisation. Echocardiography is non-invasive, avoids this complication, and, we hope, will supersede angiocardiography when atrial myxoma is suspected.

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