


IMAGES IN CARDIOLOGY

Near miss paradoxical embolism

Swelling of the right calf developed in a 70 year old woman after a 5 hour coach trip. She presented 2 weeks later with breathlessness, hypoxia, and a normal chest x ray. The ventilation-perfusion scan confirmed pulmonary embolism; despite treatment with intravenous heparin she became gradually more breathless. Echocardiography showed a large tubular mass attached to the interatrial septum and extending across the right atrium and ventricle. At thoracotomy there was a large thrombus (figure) with its proximal end crossing a patent foramen ovale and its distal end free in the right ventricular outflow tract. This was removed without complication.

The evidence that a patent foramen ovale can cause an embolic stroke remains circumstantial. A patent foramen ovale was detected in around 15% of patients after cerebral infarction,1,2 but it was also detected in a similar proportion of controls.3 The mechanism for stroke requires that a thrombus should pass close to the patent foramen ovale at the same time as there is a reversal of the normal left to right atrial pressure difference. This apparently unlikely sequence of events can occur during pulmonary embolism when even a large thrombus may catch in a patent foramen ovale as is illustrated by this case.

There are few studies of the leg and intra-abdominal veins after stroke.4 We believe that research of this type is the next step in assessing the clinical significance of patent foramen ovale in patients with cerebral infarction.

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Thrombus removed from the right heart at thoracotomy. The proximal end had crossed a patent foramen ovale into the left atrium as far as the level of the arrows.


Images in cardiology. Near miss paradoxical embolism.

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