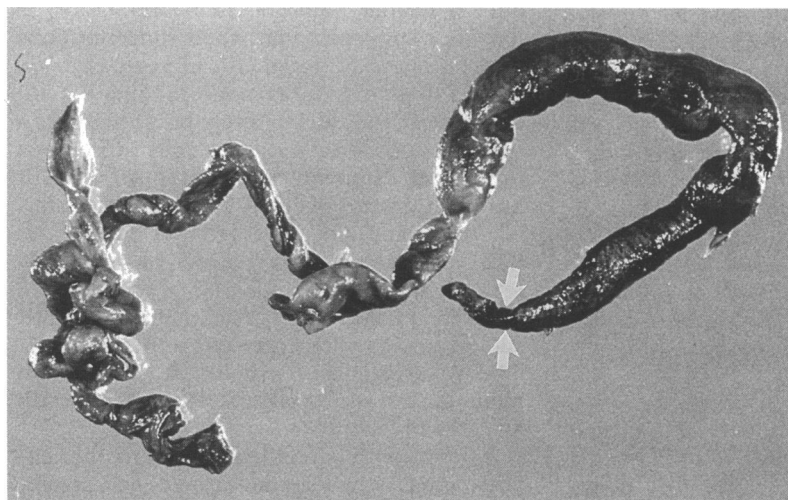


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## IMAGES IN CARDIOLOGY

### 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.



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.

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,<sup>1,2</sup> but it was also detected in a similar proportion of controls.<sup>3</sup> 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.<sup>4</sup> 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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