Involvement of extracranial arteries in paradoxical embolism

Sir,

Given the fact that paradoxical emboli are more likely to lodge in the peripheral arteries than in cerebral arteries (49% *vs* 37%) (Loscalzo, 1986), clinicians should be vigilant for the association of paradoxical embolism with platypnoea-orthodeoxia, not only in patients who present with embolic stroke, as in the recently reported case (vol 72(11), 2011, p. 652), but also in patients who present with peripheral arterial embolism, as was the case in a 51-year-old man who presented with necrosis of the first, third and fifth toes in the right foot. In this patient, the underlying mechanism was a right to left shunt through a patent foramen ovale (Delalieux et al, 2008).

The importance of raising awareness of the association of paradoxical embolism and platypnoea-orthodeoxiais is that, in the event of myocardial infarction being a presenting feature of the association of paradoxical coronary embolism and pulmonary embolism (Uchida et al, 1999; Haghi et al, 2004; Budavari et al, 2009), clinicians should be aware that concurrent atypical dyspnoea could be a manifestation of the platypnoea-orthodeoxia syndrome.

The differential diagnosis would then include the occurrence of acute coronary syndrome as a complication of pulmonary embolism. This was seen in a 66-year-old woman with pulmonary embolism who experienced recurrent chest pain (with concurrent elevation of troponin I levels) as a result of the association of 95–99% narrowing of the right coronary artery (as well as 60–70% narrowing of the left anterior descending artery) and a pulmonary embolism-related increase in right ventricular pressure (Yildiz et al, 2011).

Even in the absence of coronary artery disease, myocardial ischaemia resulting from rapid and severe increase in right ventricular afterload may, in the context of massive pulmonary embolism, give rise to right ventricular infarction (Coma-Canella et al, 1988).

Oscar Jolobe
Retired Geriatrician
c/o John Rylands University Library
Manchester M13 9PP

Budavari AI, Glenn TJ, Will KK, Askew JW, Fortuin FD (2009) A case of simultaneous pulmonary embolism and acute myocardial infarction secondary to a previously undiagnosed patent foramen ovale. *J Hosp Med* **4**: E5–E9

Coma-Canella I, Gamallo C, Martinez Onsurbe P, Lopez-Sendon J (1988) Acute right ventricular infection secondary to massive pulmonary embolism. *Eur Heart J* **9**: 534–40

Delalieux S, de Greef K, Hendriks J, Lauwers P, Suys B, Van Schil P (2008) Orthodeoxia-Platypnea syndrome presenting as paradoxical peripheral embolism. *Ann Thorac Surg* **85**: 1798–800

Haghi D, Sueselbeck T, Papavassiliu T, Hause KK, Borggrefe M (2004) Paradoxical coronary embolism causing non-ST segmen t elevation myocardial infarction. *Z Kardiol* **93**: 824–8

Loscalzo J (1986) Paradoxical embolism: clinical presentation, diagnostic strategies, and therapeutic options. *Am Heart J* **112**: 141–5

Uchida S, Yamamoto M, Masaoka Y, Mikouchi H, Nishizaki Y (1999) A case of acute pulmonary embolism and acute myocardial infarction with suspected paradoxical embolism after laparoscopic surgery. *Heart Vessels* **14**: 197–200

Yildiz A, Bostan C, Akin F, Ozkan AA, Gurmen T (2011) Concurrent pulmonary embolism and acute coronary syndrome with dynamic electrocardiographic changes. *Am J Emerg Med* Mar 28 [Epub ahead of print]

Correction

In the article *Disproportionate elevation of jugular venous pressure in pleural effusion* (vol 72(10), 2011, p. 582) the following statement was made: 'In a separate study, the same investigators noted that patients with New York Heart Association class II constrictive pericarditis....' The correct version should be: 'In a separate study the same investigators noted that patients with constrictive pericarditis categorized as New York Heart Association functional Class II....' as the New York Heart Association functional class is a grading system for severity of breathlessness, not a grading system for severity of constrictive pericarditis. We apologize for any confusion caused.