

values. Blood and urine cultures, chest radiography, and complement fixation tests for mycoplasmas and herpes simplex were negative. Antinuclear antibody titre was 1/160. Serum C4 concentration was 0.14 g/l (normal range 0.2-0.5 g/l), and C3 concentration was normal. Skin biopsy showed acute haemorrhagic vasculitis.



Skin lesions in hydralazine-induced necrotising vasculitis.

Comment

Hydralazine has re-emerged as standard treatment for hypertension now that beta-blockers are available to prevent reflex tachycardia. It is generally believed that autoimmune complications are very unlikely in patients taking less than 200 mg hydralazine/day. Bing *et al*, however, reported a 3% incidence of "lupus" syndrome occurring in patients taking less than 200 mg daily.² Our patient developed severe necrotising vasculitis associated with a "safe" dose of hydralazine. Close monitoring is necessary for all patients taking long-term hydralazine.

¹ Bernstein RM, Egerton-Vernon J, Webster J. Hydralazine-induced cutaneous vasculitis. *Br Med J* 1980;**280**:156-7.

² Bing RF, Russell GI, Thurston H, Swales JD. Hydralazine in hypertension: is there a safe dose? *Br Med J* 1980;**281**:353-4.

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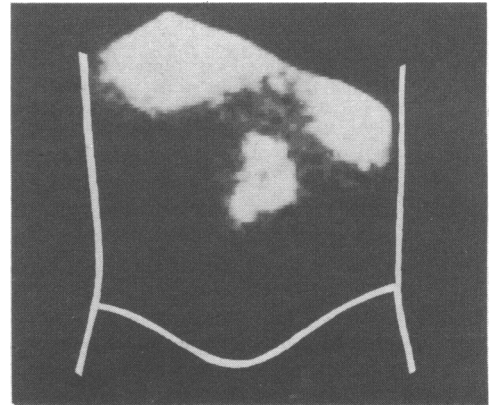
Diagnosis of aortic aneurysm using autologous platelets labelled with indium-111

The labelling of platelets with high-energy gamma-emitting radio-nuclides such as indium-111 has permitted in-vivo study of platelet kinetics, the calculation of platelet lifespan,¹ and the demonstration under some circumstances of atherosclerotic plaques,² acute renal allograft rejection,³ and platelet deposition on prosthetic material. We recently described the use of platelets labelled with indium-111 in detecting the presence and extent of venous thrombi.⁴ Deposition

of labelled platelets on thrombi is not, however, limited to those in the venous system, as the following observations indicate.

Case study

An obese 80-year-old woman was admitted to an orthopaedic ward after fracturing the neck of her left femur. Five days after operation her platelets were labelled with 200 μ Ci indium-111 oxine (Radiochemical Centre) in the course of a routine study for the detection of deep vein thrombosis. The methods used have been described elsewhere.^{4,5} Abdominal imaging obtained in this patient showed an accumulation of the radionuclide to the left of the midline in the mid abdominal region (figure). A lateral image



Anterior abdominal image of patient showing focal accumulation of platelets to left of midline in mid abdominal region.

showed this accumulation lying anterior to the spine. The location of this concentration suggested that it was unlikely to lie within the venous system, and ascending phlebography (including femoral puncture) confirmed this. Ultrasound examination of the abdomen showed the presence of an aortic aneurysm.

Comment

Our experience with indium-111-labelled platelets has shown that using them is a painless, accurate, and relatively non-invasive method of detecting venous thrombi. As thrombosis also occurs within arterial aneurysms it is not surprising that platelet deposition does too, though this has not yet been reported. So far we have seen three patients who have been diagnosed as having aortic aneurysms while being investigated with indium-111-labelled platelets for deep vein thrombosis. The possibility of aortic aneurysms must be kept in mind when interpreting results using this technique. Aneurysms at other sites, such as the femoral or popliteal arteries, may possibly also give rise to an erroneous diagnosis of venous thrombosis.

¹ Knudsen JB, Gormsen J. Studies on platelet survival time with ¹¹¹indium. *Thromb Haemostas* 1979;**42**:19.

² Davis HH, Siegel BA, Sherman LA, *et al*. Scintigraphic detection of carotid atherosclerosis with indium-111-labelled autologous platelets. *Circulation* 1980;**61**:982-8.

³ Smith N, Chandler S, Hawker RJ, Hawker LM, Barnes AD. Indium labelled autologous platelets as diagnostic aid after renal transplantation. *Lancet* 1979;ii:1241-2.

⁴ Fenech A, Dendy PP, Hussey JK, Bennett B, Douglas AS. Indium-111 labelled platelets in diagnosis of leg-vein thrombosis: preliminary findings. *Br Med J* 1980;**280**:1571-3.

⁵ Hawker RJ, Hawker LM, Wilkinson AR. Indium (¹¹¹In)-labelled human platelets: optional method. *Clin Sci Mol Med* 1980;**58**:243-8.

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