Infliximab for life-threatening pulmonary artery aneurysms in Behçet's disease: a case report

Sirs,

Behçet's disease (BD) is a multisystemic vasculitis and tumour necrosis factor-α (TNF-α) is thought to play a central role in the inflammatory response (1, 2). Pulmonary artery aneurysms (PAA) is an uncommon complication of BD (3, 4) with no firm evidence to guide its management (5). Inhibition of TNF-α by infliximab can help to induce rapid clinical improvement of this life-threatening condition.

In March 2009, a 29-year-old woman presented with dyspnea, dry cough, pleuritic pain, and fever. In 2004 she was diagnosed with BD. Recurrent febrile bilateral lumbar pain episodes lead to admission in 2007 and 2008. Abdominal CT was suggestive of renal infarcts but neither renal angiography nor echocardiography was indicative of vasculitis or thromboembolism. Acute bilateral pyelonephritis was diagnosed because she responded to cefotaxime.

At admission, the patient was febrile and physical examination was normal except for orogenital aphthae and positive pathergy test. Chest radiography showed peripheral infiltrates. Laboratory tests: $9.38x10^9$ leukocytes; haemoglobin 107 g/L, and ESR 57 mm/h; renal and coagulation parameters were preserved. Pulmonary CT angiography revealed multiple bilateral PAA with signs of vasculitis and thrombosis and large right atrial thrombi (Fig. 1). Infliximab (5 mg/kg on weeks 0, 2, 6, 14 and 22) was added to three days methylprednisolone pulse (0.5 g/day) followed by prednisone and azathioprine. Enoxaparin was initially given at low dose and thereafter increased to anticoagulation. Clinical and radiological response was impressive in 15 days. Six months later, PAA were markedly smaller and atrial thrombi resolved. Thrombophilia tests were normal and patent foramen ovale (PFO) was diagnosed by echocardiography. The patient remains in complete remission after more than 15 months on azathioprine.

BD is a multisystemic vasculitis that can affect virtually all sizes of arteries and veins and large arteries are involved in 1.5% to 2.2% of cases (4, 6). Pulmonary artery inflammation is an uncommon manifestation of BD, but it is the only vasculitis that causes PAA (3). This complication affects almost exclusively young men and is considered the most life-threatening pulmonary lesion in BD, due to the risk of rupture and fatal haemoptysis (3, 4). Partial or complete thrombosis is often observed within the PAA, but anticoagulant therapy is not recommended because of an increased haemorrhagic risk and mortality (3, 5). Venous thrombosis in other territories occurs concomitantly in 80% of patients, but intracardiac involvement is rare and mainly affects the right chambers, as in our case (3, 4, 7). The prognosis for BD patients with PAA is usually poor and successful control of symptoms with immunosuppressants, typically steroids and cyclophosphamide, is not always enough to prevent PAA recurrence or rupture that leads to mortality of at least 23% within 2 years (3-5). Current evidence strongly suggests that TNF-α inhibition usually leads to rapid and effective suppression of almost all BD manifestations, including those refractory to conventional treatments as reported in 2 patients with PAA (2, 5, 8, 9). In our case, the clinical and radiological improvement was impressive, with thinning of the pulmonary artery wall and marked reduction of the PAA diameter after infliximab treatment. Interestingly, PFO that led to multiple paradoxical renal embolisms was thought to be the true cause of her recurrent urinary symptoms. Thus, renal artery thrombosis or vasculitis is very rare in BD (6) and renal infarction due to cardiac embolism in patients with PFO is probably under-recognised (10).

The prognosis of patients with BD and PAA has improved in recent years probably due to better use of immunosuppressants (4, 5). We suggest that TNF-α blocking agents have the potential to induce rapid remission of severe BD flares and should be considered in patients with life-threatening vascular manifestations.

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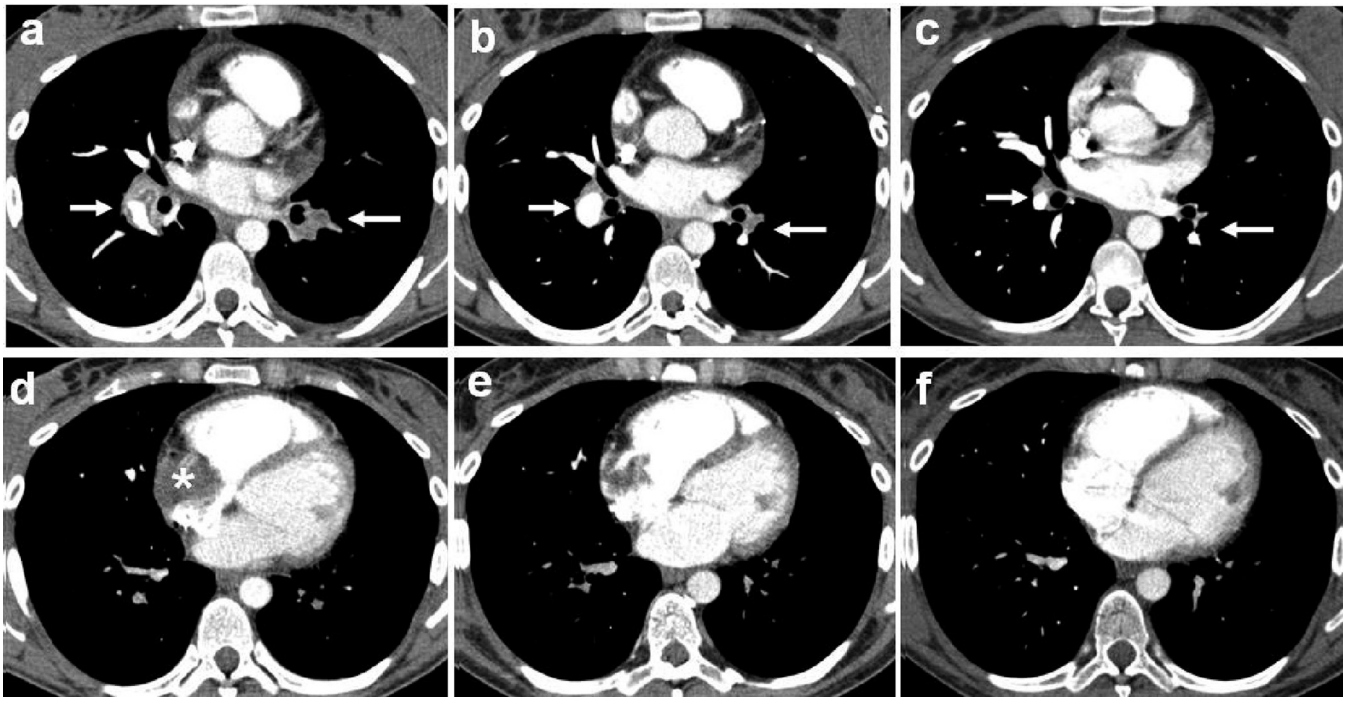

Fig. 1. Chest CT angiograms. **(a, d)** at admission, CT showed a large aneurysms of both pulmonary arteries with marked vascular wall thickening related to vasculitis, pulmonary artery thrombosis with partial occlusion on the right and complete occlusion on the left (arrows), and thrombi in the right atrium measuring 50 mm (*); **(b, e)** on CT obtained 25 days later, pulmonary aneurysms were still present but wall thickening and thrombosis clearly improved and intracardiac thrombi was smaller; **(c, f)** 6 months later, a significant reduction of the size of the pulmonary aneurysms' and arterial thrombosis. Thrombi in the right atrium disappeared.

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