Keywords: Dialysis; aspergillus flavus; endocarditis

A 53-year-old male on haemodialysis presented with 1 month of right-sided pleuritic chest pain, low-grade fever and haemoptysis. He was on haemodialysis via arteriovenous fistula in the right forearm for 3 years. He had recently completed interferon treatment for chronic hepatitis C. He had a 30-pack-year smoking history. Medications at presentation included moxifloxacin for presumed pneumonia. Examination revealed sternal tenderness, decreased breath sounds at the right lung base and pedal oedema. He remained afebrile throughout his stay. Labwork showed microcytic anaemia (Hb 11 gm/dl), leucocytosis with significant neutrophilia (WBC 16 000/mm3), elevated ESR (115), positive rheumatoid factor and polyclonal gammopathy. Chest X-ray and CT revealed multiple bibasilar opacities with ground glass-halos. He was empirically started on ceftriaxone and azithromycin for pneumonia. A bronchoscopy was done, which revealed haemosiderin-laden macrophages and epithelioid histiocytes suggesting a granulomatous process. There was no evidence of malignancy or tuberculosis on bronchoscopy. Transthoracic echocardiogram revealed right-heart failure with no vegetations. Blood cultures, HIV and cANCA were negative.

On day 5 he developed severe abdominal pain. CT scan showed a new splenic infarct. Labwork revealed elevated liver enzymes with an AST of 475 and ALT of 238. On day 8 he developed left-sided chest pain and a new right bundle branch block. Ischaemia was ruled out with negative cardiac enzymes and stress test. His leukocytosis worsened (22 000/mm³) and chest X-ray showed a new left lower lobe infiltrate. He continued to be afebrile and blood cultures were persistently negative. A transoesophageal echocardiogram was scheduled to rule out endocarditis and vancomycin was added empirically. On the same day the patient became lethargic and was intubated for airway protection. Head CT scan was negative. On day 11 he developed pulseless bradycardia and expired despite resuscitation efforts. Autopsy showed disseminated aspergillosis with a 1 x 1.5 cm vegetation on aortic valve (Figures 1 and 2) and bilateral aspergillus bronchopneumonia with abscesses and haemorrhage. The aortic valve grew aspergillus flavus on culture. There was no other organ involved.

Discussion

Aspergillus endocarditis mainly occurs in post-surgical patients with prosthetic valves, while two-thirds of the patients with native valve endocarditis are immunosuppressed [1]. The prognosis of aspergillus endocarditis is poor, and the mortality rate approaches 80–100% [1]. Patients typically present with fever and embolic phenomena. The absence of fever, lack of typical risk factors for invasive aspergillosis and the presence of epithelioid histiocytes on bronchoscopy is an unusual presentation of aspergillus endocarditis. We did not find any association of interferon use to invasive aspergillosis in the literature. In fact, interferon-γ is occasionally used to treat invasive aspergillosis in immunosuppressed patients [2]. Even among aspergillus endocarditis, aspergillus flavus constitutes only <10% of cases [1].

In conclusion, this report emphasizes that nephrologists should have a low suspicion for opportunistic infections in dialysis patients. Aspergillus endocarditis has been previously reported in patients with renal failure [3,4], but to the best of our knowledge this is the first case-report of aspergillus flavus endocarditis in dialysis patient.

Conflict of interest statement. None declared.

References


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Fig. 1. Aortic valve with a 1 x 1.5 cm aspergillus vegetation.

Fig. 2. Aortic valve biopsy showing aspergillus flavus hyphae.


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