Pleural effusion secondary to minoxidil in a peritoneal dialysis patient

Sir,

We report a case of a 48-year-old male with end-stage renal disease secondary to focal segmental glomerular sclerosis, who began continuous ambulatory peritoneal dialysis (PD) in June 2002. Three months later, minoxidil 5 mg/day was introduced because of uncontrolled hypertension. Oedema and weight gain appeared in spite of 3 l/day net ultrafiltration on PD. Left pleural effusion associated with paroxysmal nocturnal dyspnea was first discovered in March 2003. An extra exchange was introduced and, as there was no response, he began daily haemodialysis for 6 weeks without clinical or radiological improvement. Recurrent thoracentesis of more than 500 ml were needed every 2–3 weeks. He restarted PD; the effusion was an acellular transudate with a glucose concentration of 110 mg/dl (similar to blood) and echocardiography showed left ventricular hypertrophy with normal systolic function. Minoxidil was stopped in October 2003 and, 2 weeks later, a chest radiograph revealed no evidence of pleural effusion for the first time in 8 months. The patient reintroduced the drug himself and the effusion relapsed, disappearing again after drug withdrawal; a pleuro-peritoneal communication was not looked for because of the sequence of events.

Hypertension is frequent among patients with chronic renal failure and sometimes it is necessary to use agents, like minoxidil, that induce vasodilation by directly relaxing arteriolar smooth muscle [1]; its use is nonetheless limited to severe cases, due to frequent secondary reactions [2]. Hypertrichosis is the most frequent reaction (80%); occasionally oedema, weight gain, congestive heart failure, tachycardia and pericarditis (<1%) and others occur [1]. Many papers have reported the association between minoxidil and pericardial effusion, both in dialysis patients and those with normal renal function [3]. It sometimes requires drainage because of tamponade, but usually disappears after discontinuation of the drug. To date only one case of pleural effusion associated with pericardial effusion has been published [4] and an isolated unilateral pleural effusion has never been reported before. Hydrothorax is an uncommon complication of PD, usually right-sided and secondary to a pleuro-pericardial communication [5].

Conflict of interest statement. None declared.