storage disorders such as Fabry disease, standardized screening for particular biomarkers is beginning to be considered a useful tool for diagnostics [6]. Future screening studies may help to identify Fabry patients that would gain immediate benefit from diagnosis. Screening for this disease is particularly timely in Canada, where a comparative clinical trial of currently approved ERT drugs is ongoing.

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Long-term results of a calcineurin inhibitor-free immunosuppression based on Thymoglobulin® and mycophenolate mofetil in elderly kidney transplant recipients

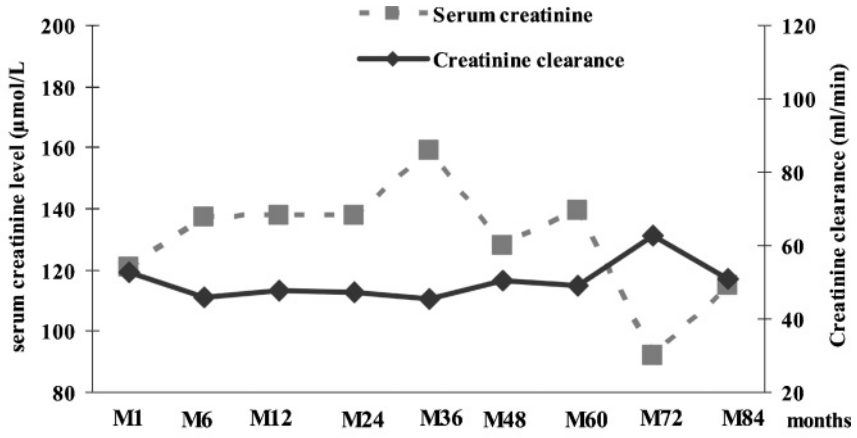
Sir,

The number of kidney transplant donors and recipients above 60 years of age is increasing worldwide. Kidney allografts from elderly donors are at high risk of delayed graft function (DGF), increased susceptibility to calcineurin inhibitor (CNI) nephrotoxicity and seem to be more immunogenic than those from younger donors [1]. Recipients >60 years of age have an increased risk of dying of infection, cancer or a cardiovascular disease, but have a lower risk of developing an acute rejection (AR) than younger recipients [2]. However, if they do experience an AR, this shortens both patients' and grafts' survivals [1]. Finding adequate immunosuppression in this population is delicate. Very scarce data regarding the long-term results of CNI-free regimen in this population are available.

We conducted a prospective pilot study between January 1999 and May 2000 in kidney transplant recipients over 60 years of age. Twelve patients (mean age 65 ± 3 years) received the first renal allograft from cadaveric donors (mean age 55 ± 19 years). They received an induction therapy by Thymoglobulin® (1 mg/kg/day for 3 days and then administered when circulating lymphocyte CD2 count was $<50/mm^3$ during the first 10 days, total mean dose: 6.29 ± 1.25 mg/kg), mycophenolate mofetil (2 g/day) and steroids [500 mg pulse pre-transplant, and then tapered to 30 mg at 1 month (M), 10 mg at M6 and 5 mg at M12]. Patients at risk for cytomegalovirus (CMV) received a valaciclovir prophylaxis for 4 months. Anti-*Pneumocystis jiroveci* prophylaxis was given during the first 6 months post-transplantation. Seven-year patient, kidney allograft and death-censored kidney allograft survivals were respectively 83, 58 and 75%. Two patients died with a functioning graft (CMV disease and intracranial aneurysm rupture). Three other patients underwent haemodialysis, 35, 64 and 73 months after transplantation, because of chronic allograft nephropathy. Two of them had presented an AR. Overall, four patients (33%) presented an AR episode: two steroid-sensitive and two steroid-resistant rejections treated by OKT3. Only one patient presented a DGF, defined by the requirement of a dialysis session post-transplantation. Six patients presented a CMV infection (50%) and four patients developed a severe infection (not CMV) that required hospitalization. Two patients developed septicaemia due to acute pyelonephritis and diverticulitis, respectively. A third patient suffered from a varicella zona virus infection. The fourth patient presented consecutively an ophtalmological zona, a septicaemia and cryptococcal meningitis. The latter patient had received OKT3. Two patients developed prostate cancer at 5 years post-transplantation. At the last follow-up, kidney function was good (Figure 1). Overall, five patients required the use of CNIs, i.e. the four patients who developed an AR and one other patient who had an increase in serum creatinine level related to a biopsy-proven chronic allograft nephropathy.

Hence, using a CNI-free immunosuppressive regimen based on short induction therapy by Thymoglobulin®, followed by a dual therapy by MMF and steroids, provides acceptable long-term results in elderly kidney transplant patients. OKT3 should be avoided in these patients. The results of this strategy might be improved by using pharmacokinetic and pharmacodynamic monitoring of MMF.

Conflict of interest statement. None declared.



Patients CNIs-free (n)	12	8	8	8	8	6	5	5	5
Patients on CNIs (n)	0	4	4	4	3	4	3	3	2

Fig. 1. Outcome of the serum creatinine level and creatinine clearance calculated according to the Cockcroft and Gault formula.

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Unilateral pleural effusion associated with ipsilateral arm and breast oedema: a rare complication of brachiocephalic and SVC stenosis in association with an arteriovenous fistula

Sir,

Central venous stenosis has been a well-recognized complication of dialysis catheters for over 20 years. There is a much higher incidence of venous stenosis associated with subclavian versus internal jugular vein dialysis catheters [1]. The stenosis, however, is commonly asymptomatic until an ipsilateral arteriovenous fistula is formed. Arm oedema and, to a lesser extent, breast oedema are well-described complications [2–4]. It is extremely rare, however, to have an associated pleural effusion as well [5].

We present a case of massive right pleural effusion associated with right breast and arm oedema, as a consequence of a right brachiocephalic/superior vena cava (SVC) stenosis in a dialysis patient with an ipsilateral arteriovenous fistula.

A 60-year-old female haemodialysis patient presented with shortness of breath. A CXR revealed a massive right-sided pleural effusion with ipsilateral breast and arm oedema. Eight hundred and fifty millilitres of straw-coloured pleural fluid was drained and found to be a transudate. Cytology, culture and biochemical analysis failed to demonstrate a cause. Rapid re-accumulation of fluid resulted in a second admission 2 weeks later with a 'white-out' of her right hemithorax (Figure 1). A further 1000 ml of pleural fluid was drained, with similar findings to the first examination.

Dialysis access was via a right basilic vein transposition and also a left internal jugular tunnelled dialysis catheter. This had been left *in situ* due to needling problems of the fistula. Imaging revealed a significant stenosis at the junction of the right brachiocephalic vein and SVC. A decision was made to perform caval venoplasty with stenting of the stenosis, which was radiologically successful. The dialysis catheter was removed prior to the procedure. The placement of the stent resulted in the resolution of her arm and breast oedema within 48 h. Furthermore, the symptoms of breathlessness resolved over the next 2 weeks. A subsequent CXR revealed clear pleural spaces (Figure 2).

Her fistula is still working well and being used as dialysis access 10-month post-stent insertion.

Pleural fluid can enter the pleural cavity through three potential routes: capillaries in the parietal pleura, interstitial spaces via the visceral pleura or peritoneal cavity via the diaphragm. This fluid is normally removed by lymphatics