A painful hand in a kidney transplant recipient

Sir,

A 58-year-old Caucasian woman reported 1-month progressive pain and swelling of the wrist and metatharsal region (Figure 1). She had received a renal transplantation 6 years previously and was on cyclosporine A and mycophenolate. Her daughter had latent tuberculosis 15 years earlier. Imaging techniques of the wrist were suggestive of tenosynovitis. Fine-needle aspiration yielded 0.3 ml of liquid with inflammatory properties. Standard stains and cultures, 16S rRNA gene PCR and mycobacteria PCR were negative. TST, chest radiographs, abdominal ultrasonography and cultures for mycobacteria were also negative.

After 2 weeks of empirical antibiotic treatment without clinical improvement, a synovial biopsy was performed, from which Mycobacterium tuberculosis was recovered. Eventually, M. tuberculosis also grew from the earlier synovial fluid. Surgical debridement was performed and the diagnosis was histologically confirmed. Treatment with isoniazid, ethambutol and levofloxacin has been satisfactory.

Infectious tenosynovitis is an uncommon disorder that may result from puncture wounds or lacerations. Infection in the closed space of the hand can lead to severe limitation of motion, due to tendon disruption. Reports of tuberculous tenosynovitis after organ transplantation are very rare. We found only one other case of M. tuberculosis tenosynovitis in a heart transplant patient [1], two by M. kansasii and two by non-identified mycobacteria [2–5]. However, in other populations, tuberculosis is a common cause of tenosynovitis. It spreads haematogenously from a secondary infection site, such as lung or abdomen. Precipitating factors include trauma (30%), work-related tendon stress and local glucocorticoid injections.

Definite diagnosis must rely on deep structures culture, since granulomatous inflammation alone may have another aetiology. The sensitivity of synovial fluid culture for M. tuberculosis is 79% and reaches 94% for synovial tissue culture. Molecular techniques allow a rapid diagnosis (<6h) directly from the samples. The false negative result in our case may be due to low inoculum of the sample. Other foci of tuberculous disease should be excluded in all patients with tenosynovitis.

A combination of medical and surgical treatment increases the chances of satisfactory functional outcomes. Significant interaction of rifampin with immunosuppressive agents may occur in the transplant population. If disseminated disease and suspicion of multi-drug resistant tuberculosis (MDR-TBC) are absent, we recommend [6] isoniazid, ethambutol and pyrazinamide. In the presence of disseminated disease or in geographic areas of MDR-TBC, the addition of a fourth drug is recommended. Triple therapy is usually maintained for the initial 2 months, followed by a combination of isoniazid and ethambutol for periods of up to 18 months, in situations in which rifampin cannot be part of the therapy. Surgery is essential and safe in the transplant population with tenosynovitis. Rehabilitation therapy improves the functional outcome but recurrences are common and prolonged follow-up should therefore be provided.

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Multiple infections after commercial renal transplantation in India

Sir,

The increased demand for transplantable kidneys has not met with a corresponding increase in the supply of these organs. Many patients travel to other, mostly developing countries, in search of commercial transplantation. In order to perform the procedure rapidly, standards of transplantation are compromised [1]. Besides the clinical issues, ethical problems are also of equal concern.

We report the case of a 56-year-old Slovenian male who underwent renal transplantation for undiagnosed chronic renal failure. He refused a suggested haemodialysis and awaited for transplantation. Without consultation with a nephrologist, he privately arranged the transplantation in India. Live-donor renal transplantation was performed in September 2004, in a New Delhi private clinic. The donor was a 28-year-old male from Bangladesh. The post-operative course was uneventful, and the patient was discharged from the hospital on the day 10. Tacrolimus and methylprednisolone were used for immunosuppression. The patient immediately returned to Slovenia and consulted his nephrologist. His initial renal function and laboratory parameters were within normal ranges.

Three weeks after the transplantation he became febrile; ESBL-producing Escherichia coli was isolated from blood and urine cultures. Despite treatment with imipenem he remained febrile. Aspergillus terreus was isolated from a partially dehiscent post-operative wound, followed by positive serum galactomannan assay. Treatment with voriconasol was initiated. On the day 40, deep venous thrombosis of the right ileofemoral vein developed (the allograft vein was anastomosed to the right external iliac vein). A few days later, Plasmodium falciparum and Plasmodium vivax were found in the peripheral blood smear (Figure 1A). He was treated with intravenous quinine; parasitaemia (initially 4.8%) cleared in 6 days and his condition temporarily improved.

On the day 53, symptoms and signs of infection reappeared and renal function began to deteriorate. On the basis of a computed tomography scan and sequential renal scintigraphy, a urine leak from the lower renal pole was suspected; the allograft was removed and immunosuppression stopped, the patient was placed in the intensive care unit. The clinical suspicion was confirmed, as the lower pole of the kidney was found to be necrotic (Figure 1B). From the necrotic kidney tissue, ESBL-producing E. coli, Mucor spp. (Figure 1C) and Mycobacterium fortuitum were isolated. Furthermore, strongly birefringent crystalline vascular deposits typical of talc in the wall of small interlobular artery accompanied by segmental fibroproliferative granulomatous vasculitis with elastica destruction (van Gieson-Weigert staining, polarization microscopy).

Fig. 1. (A) Plasmodium falciparum and Plasmodium vivax in the patient’s peripheral blood smear. (B) Necrosis of the lower pole of the transplanted kidney. (C) The surface of severely inflamed and necrotic pelvic mucosa covered by broad, non-septate, at the right angle branching mucormycosis hyphae and scattered groups of Gram-negative coliform bacteria (Gram staining). (D) Birefringent crystalline deposits typical of talc in the wall of small interlobular artery accompanied by segmental fibroproliferative granulomatous vasculitis with elastica destruction (van Gieson-Weigert staining, polarization microscopy).