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An atypical pneumonia in a renal transplant patient

We report the case of a 27-year-old man who suffered from end-stage renal disease secondary to medullary cystic kidney disease and who received a kidney transplant in November 2007. The post-transplant immunosuppressive regimen consisted of methylprednisolone, tacrolimus and mycophenolate mofetil. One year later, the patient presented with a non-productive cough and pain at the right side of the chest. He did not have fever. Physical examination revealed breath sounds reduction and rales over the right lung. On blood examination, C-reactive protein (CRP) was elevated at 52.3 mg/L (normal range <5 mg/L), and white blood cell (WBC) count was 13×10^3 /mm³ (normal range 3.6–9.6 × 10^3 /mm³) with 9.2×10^3 /mm³ neutrophils (normal range $1.4-6.7 \times 10^3$ /mm³). Serum creatinine was 177 µmol/L (2.0 mg/dL) (normal range 0.5-1.5 mg/dL), and urea was 8.5 mmol/L (51 mg/dL) (normal range 15–40 mg/dL). Tacrolimus level was in the therapeutic range. Chest radiography showed the presence of an opacity at the right lung. Empirical treatment with intravenous amoxicillin clavulanate and clarithromycin was initiated. After a few days, the patient's symptoms resolved, and CRP and WBC count returned to normal. Antibiotic therapy was continued orally. However, the infiltrate remained radiologically unchanged.

Two months later, our patient was readmitted with general malaise. Laboratory tests at that time showed CRP of 145.5 mg/L, urea of 70 mg/dL, creatinine of 2.5 mg/dL and WBC count of 6.9×10^3 /mm³. Chest computed tomography (CT) scan showed no reduction of the pulmonary infiltrate. Therapy with amoxicillin clavulanate was reinitiated. Two sputum cultures and one blood culture yielded growth of Gram-positive coccobacilli, later identified as Rhodococcus equi. After susceptibility testing, therapy was switched to oral doxycycline and ciprofloxacin [1], and the patient could be discharged. A week later, he was readmitted for an Escherichia coli sepsis of unknown origin. Based on advanced literature study [1,2], it was decided to treat the patient with oral ciprofloxacin $(2 \times 500 \text{ mg/day})$ and rifampicin $(2 \times 450 \text{ mg/day})$ for at least 6 months. A CT-guided biopsy of the lesion was performed 7 months after initial diagnosis and showed the presence of granulomatous inflammation without necrosis. Additional stains and tissue cultures remained negative, namely for mycobacteria.

Currently, after 1 year of therapy, the patient's symptoms have completely resolved, and chest CT scan shows limited atelectasis but no active pulmonary infiltrate anymore.

Immunosuppressive therapy has not been changed during the whole course of the infection.

R. equi is a bacterium identified in soil and animals [2,3], but since our patient had a negative anamnesis for direct exposure, it still remains unknown how he acquired this type of infection.

This case illustrates the difficulty to establish the diagnosis of causative pathogens in immunocompromised patients, since clinical presentation can be very atypical and the spectrum of possible pathogens is extended. In conclusion, *R. equi* is a rare pathogen that should be considered in the differential diagnosis of atypical pneumonia in transplant patients.

Conflict of interest statement. None declared.

¹Department of Nephrology and Hypertension ²Department of Microbiology and Infection Control Universitair Ziekenhuis Brussel, Brussels, Belgium E-mail: Kathleen. DeLeeuw@uzbrussel.be Kathleen De Leeuw¹
Annelies De Bel²
Christian Tielemans¹
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Should we recommend precautions during a hantavirus endemic?

Sir,

The number of notified hantavirus infections in southwestern Germany increased considerably in the beginning of the year 2007; therefore, the German health institutions put out a press release in the areas with the highest incidence in the southwestern part (Baden-Wuerttemberg) to establish precautions in the case of a possible contact with rodents [1].

During this significant endemic burst of infections, a 43-year-old male patient presented in Baden-Wuerttemberg with fever (>39°C), low back pain and acute renal failure. He told the doctors at the emergency department that he most likely had a hantavirus because he had cleaned his garden cabin 10 days before the presentation in the emergency department, and he had observed several rodents in his garden in the past. Because of the mentioned press release of an increased number of hantavirus infections with a broad discussion in the public, he followed some of the recommended precautions of the gov-