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Systemic nocardiosis in acquired aplastic anaemia: Report of 2 cases[☆]



Nocardiosis sistémica en pacientes con aplasia medular adquirida: descripción de 2 casos

Dear Editor,

Nocardia spp. is a filamentous, branching Gram-positive bacteria that can cause serious infections in immunocompromised patients.¹ Since the 1970s, cases of nocardiosis have been reported in solid-organ transplant recipients.² In oncohaematological patients, infections caused by *Nocardia* have been documented in haematopoietic stem cell transplant recipients.³ Acquired bone

marrow aplasia is an immunomodulatory disease that presents with bone marrow failure. Treatment for this disease essentially consists of immunosuppression.⁴ We report 2 cases of systemic nocardiosis in patients with bone marrow aplasia who did not undergo a bone marrow transplant.

Case 1

An 83-year-old woman diagnosed with bone marrow aplasia was not offered a bone marrow transplant due to her age.

The patient was hospitalised with signs and symptoms consisting of fever for 15 days, asthenia and lumbar pain. Her fever persisted despite treatment with amoxicillin, and a previously absent palpable mass was detected in her lumbar spine. A com-

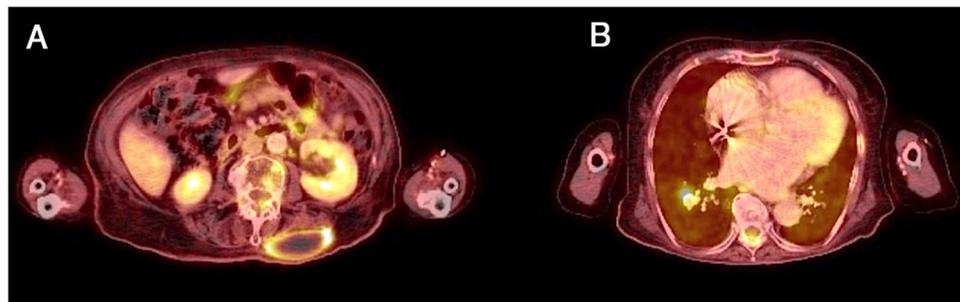


Figura 1. A) Colección paravertebral izquierda con realce periférico. B) Nódulo pulmonar hipercaptante peribronquial derecho.

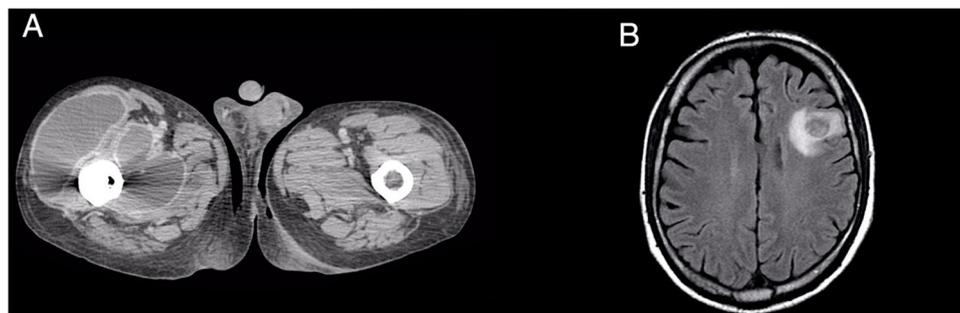


Figura 2. A) Extensa colección periprotésica en miembro inferior derecho que se extiende a cuádriceps y músculos aductores. B) Lesión con realce periférico y edema vasogénico en lóbulo cerebral frontal izquierdo.

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puted tomography/positron emission tomography (PET-CT) scan showed a left paravertebral collection with peripheral enhancement (Fig. 1A), as well as a hyperenhancing right lung nodule (Fig. 1B). Fine-needle aspiration was performed on the lumbar abscess for microbiological culture which isolated *Nocardia cyriacigeorgica* susceptible to co-trimoxazole, amikacin, linezolid and doxycycline and resistant to quinolones. Antibiotic treatment was started with meropenem and amikacin for 2 weeks, after which the patient started to improve. The patient was discharged with oral antibiotic treatment with co-trimoxazole and doxycycline. This combination was maintained for 8 months with no adverse side effects, and the patient showed complete resolution of the lesions 6 months after her hospitalisation.

Case 2

A 51-year-old man diagnosed with severe acquired bone marrow aplasia at age 23 declined to undergo a bone marrow transplant. For this reason, he remained on immunosuppressant treatment including various agents over time including cyclosporine, steroids and mycophenolate mofetil. At age 46, the patient was fitted with a hip prosthesis due to avascular necrosis of the right femoral head caused by his steroid treatment.

He was hospitalised 6 years later due to fever and increased right leg volume following an accidental fall. The injury was accompanied with local erythema and a marked increase in temperature. A CT scan revealed a large collection extending to the quadriceps and abductor muscles (Fig. 2A). The culture obtained through aspiration of the collection isolated *Nocardia farcinica* resistant to third-generation cephalosporins but susceptible to carbapenems, amikacin and co-trimoxazole. A study of the central nervous system (CNS) using magnetic resonance imaging revealed a round lesion on the frontal lobe which showed vasogenic oedema and peripheral enhancement (Fig. 2B), consistent with a CNS abscess.

The patient was diagnosed with disseminated nocardiosis with CNS symptoms and initially treated with meropenem, amikacin and co-trimoxazole. He had to be admitted for surgery to drain the periprosthetic abscess; however, his fever disappeared when antibiotics were started. Despite his initial recovery and resolution of nocardiosis-related lesions, including his cerebral nocardiosis, the patient died 3 months later of invasive pulmonary aspergillosis.

The incidence of nocardiosis in other conditions unrelated to transplant — such as bone marrow aplasia — is unknown and likely to be underestimated. It is unclear how *Nocardia* invades the host; as it is an omnipresent germ, accidental contact can cause infection. Our second case showed a clear relationship between an injury and the development of abscesses in the same area. Nocardiosis

generally develops in a subacute or chronic fashion and may go unnoticed; therefore, strong suspicion is essential for its diagnosis.

Most recommendations include initial combination therapy, preferably with 2 active antibiotics, although there is no standard treatment. Following intravenous treatment which may last up to one month, treatment with oral antibiotics must be maintained for 6–12 months. Co-trimoxazole is the antibiotic of choice for outpatient treatment.⁵

Regarding our cases, choosing an antibiotic regimen was complicated due to the bone marrow toxicity caused by co-trimoxazole. Alternative agents such as doxycycline or quinolones may be selected with the help of an antibiogram for prolonged treatment with good results.

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Detection of respiratory viruses in patients with suspected SARS-CoV-2 infection[☆]



Detección de virus respiratorios en pacientes con sospecha de infección por SARS-CoV-2

The SARS-CoV-2 virus is considered to be the cause of the current acute respiratory disease (COVID-19) pandemic which started

in the city of Wuhan on 31 December 2019. The clinical signs of COVID-19 (fever, cough and dyspnoea) are seen in many other acute respiratory infections caused by other conventional viruses, although its morbidity and mortality rates are much higher. The presence of this new virus in the winter months amidst circulation of seasonal strains of many other respiratory viruses, primarily influenza and respiratory syncytial virus (RSV), complicates differential clinical diagnosis despite initial epidemiological links.¹ Consequently, initial testing for other respiratory viruses, in addition to SARS-CoV-2, has been recommended to learn about their aetiological role in this group of patients.¹

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