

## *Nocardia* Endocarditis in a Native Mitral Valve

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Nocardiosis is an opportunistic infection that usually arises in immunodepressed patients. Cases in immunocompetent patients are uncommon. We report a 53-year-old woman diagnosed as having *Nocardia* sp. endocarditis in a native mitral valve, which required valve replacement.

**Key words:** *Nocardia*. Mitral valve. Endocarditis.

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### Endocarditis por *Nocardia* en la válvula mitral nativa

La nocardiosis es una enfermedad infecciosa oportunista que suele producirse en pacientes inmunodeprimidos. Los casos en pacientes inmunocompetentes son infrecuentes. Presentamos el caso de una mujer de 53 años diagnosticada de endocarditis en la válvula mitral nativa por *Nocardia* sp. que requirió sustitución valvular.

**Palabras clave:** *Nocardia*. Válvula mitral. Endocarditis.

### INTRODUCTION

Infection by *Nocardia* sp, is rare and usually develops in immunodepressed patients, such as those receiving chemotherapy for solid organ or hematological neoplasms, patients undergoing long-term steroid therapy and those infected with human immunodeficiency virus. Cardiac involvement is uncommon and usually occurs as endocarditis or pericarditis. We present a case of endocarditis in a native mitral valve caused by *Nocardia* sp.

### CLINICAL CASE

A 53-year-old woman with a history of depressive syndrome, herniated cervical disc, and no epidemiological history of interest except for contact with birds, was admitted for a febrile syndrome at 39°C of two weeks' duration, with no other symptoms. The only relevant data provided by the patient was a dental extraction some days before the onset of the febrile process. She was treated with oral cefixime, with no improvement. She then came to the emergency room and was prescribed ciprofloxacin. No response was obtained and she was admitted to the hospital for study.

The physical examination was normal, except for slightly pale skin and mucosa. The analytical findings included normochromic normocytic anemia, RBC sedimentation rate 101 mm/h, normal coagulation study, moderate transaminase alterations and slight hypopotassemia. Serial blood, urine, sputum and stool cultures were negative. Serologies for *Toxoplasma*, Epstein-Barr virus, cytomegalovirus, *Legionella*, *Chlamydia pneumoniae*, and *Coxiella* were negative, and antinuclear antibody detection was negative. A computed tomography scan of the chest showed cardiomegaly with predominance of the left chambers and patchy, ground-glass areas in the right lung.

Echocardiography showed a 1.5-cm-diameter vegetating mass on the atrial aspect of the anterior mitral leaflets. The patient was given empirical treatment with cloxacillin, ampicillin, and gentamicin, with no improvement. Repeat echocardiography performed after 2 weeks of treatment showed moderate mitral regurgitation secondary to the mitral vegetation. The regurgitating flow suggested valve perforation. The patient was sent to the cardiac surgery department of our referral hospital for surgery and implantation of a Carbomedics mechanical mitral valve. The native valve was found to be perforated and *Nocardia* sp. was isolated on tissue culture. Postoperative antibiotic treatment with imipenem and amikacin was initiated according to the antibiogram. The patient returned to our center where she completed the course of intravenous antibiotics (4 weeks) without incidents. After this time she was discharged home to continue oral treatment

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with trimethoprim-sulfamethoxazole for 6 months with outpatient follow-up. The patient's clinical course was favorable and, currently, following antibiotic therapy, is asymptomatic.

## DISCUSSION

Infection due to *Nocardia* sp. usually manifests as an acute, subacute or chronic suppurating infection. The main target organ is the lung, where it generally presents as confluent bronchopneumonia with pleural compromise and cavitation.<sup>1</sup> The clinical manifestations also include tracheobronchitis, peritonitis, rectal abscesses, sinusitis, mediastinitis, peritonitis, osteomyelitis, endocarditis, and arthritis.<sup>2</sup> Endocardial involvement is uncommon, particularly in patients without predisposing heart disease, which is also true for endocarditis produced by other microorganisms.<sup>3</sup> The infection usually occurs in patients with prosthetic valves; several case studies have been reported in the literature.<sup>4-6</sup> *Nocardia* sp. infection in a native valve is extremely rare.<sup>7</sup> Because of the indolent course of *Nocardia* endocarditis and the low degree of suspicion, the initial empirical antibiotic treatment usually applied for a diagnosis of endocarditis is often not appropriate. Valve replacement and culture of the vegetation is generally required in order to establish appropriate, potent antibiotic treatment. Imipenem and

amikacin seem to be the most effective agents, and *in vitro* synergism has been demonstrated between imipenem and trimethoprim-sulfamethoxazole, imipenem and cefotaxime, and amikacin and trimethoprim-sulfamethoxazole.<sup>8</sup>

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