



## CLINICAL CASE

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### Pulmonary nocardiosis treated with tedizolid

#### Nocardiosis pulmonar tratada con tedizolid

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## Introduction

Nocardiosis is an acute or chronic infection, often disseminated, suppurative, or granulomatous, which is caused by several microorganisms of the genus *Nocardia*. It mainly affects immunocompromised patients. The typical clinical picture is pneumonia, but skin and central nervous system (CNS) infections are also common. Associated mortality rates are high, ranging from 14% to 40% increasing to 60-100% when CNS disseminated infection occurs.

Pulmonary nocardiosis remains a difficult diagnostic entity because of its clinical and radiological nonspecificity. Diagnosis is established from the identification of *Nocardia* species in tissues or cultures of samples obtained from the lesions. The choice of treatment should be based on antibiogram.

Trimethoprim-sulfamethoxazole (TMP/SMX) is the antimicrobial of choice to treat pulmonary nocardiosis. Other antimicrobial agents with activity against *Nocardia* species include amikacin, imipenem, meropenem, ceftriaxone, cefotaxime, minocycline, levofloxacin, linezolid, tigecycline, and amoxicillin/clavulanic acid. In order to minimize the risk of relapse, treatment duration is generally from 6 months to 12 months<sup>1</sup>.

Tedizolid is an oxazolidinone-class antibiotic with activity against gram-positive microorganisms. It is indicated in skin and soft tissue infections at a recommended dosage of 200 mg oral or IV once daily for six days<sup>2,3</sup>. Experience of tedizolid in the treatment of pulmonary nocardiosis is anecdotal but promising, due to its good in vitro activity<sup>4</sup> and excellent oral bioavailability, despite limited evidence on prolonged treatment.

We describe the efficacy and safety of prolonged treatment with tedizolid in a case of pulmonary nocardiosis.

## Case description

A 47-year-old woman with COPD treated with  $\beta_2$  adrenergic agonists combined with inhaled corticosteroids. There was no other history of interest and renal function was normal. She had returned from Venezuela, where she had a clinical picture of at least 10-months duration of cough with scarce hemoptoic expectoration, asthenia, and weight loss of at least 10 kg, accompanied by dyspnea with moderate exercise. Chest CT scan showed a cavitary-abscess lesion in the left lower lobe suggestive of infectious disease. The scan also showed small homogeneous hilar/mediastinal adenopathies, probably inflammatory, as well as calcified and non-calcified granulomas in the right upper lobe. Biopsy ruled out neoplasia and only confirmed an acute inflammatory component: thus, a diagnosis of pulmonary nocardiosis without infiltration was assumed. In March 2018, we began outpatient treatment with TMP/SMX. However, on April 21, 2018, treatment was suspended after she developed a diffuse erythematous nonpruritic painless rash, jaundice of the skin and eyes, and choluria.

On May 8, 2018, she was admitted to our hospital with TMP/SMX hepatotoxicity and persistent pulmonary lesion. We were unable to isolate and determine the *Nocardia* species, so antibiotic coverage was begun with imipenem and amikacin. The patient developed a skin rash after the administration of amikacin, which was replaced by linezolid 600 mg/12 h. On 23 May, 2018, the patient was discharged under a Home Hospitalization program and treated with intravenous imipenem, oral linezolid, and her usual inhaled treatment. On June 15, 2018, she developed anemia, thrombocytopenia, and neutropenia. We decided to maintain treatment with imipenem but suspend linezolid until hematologic recovery.

## KEYWORDS

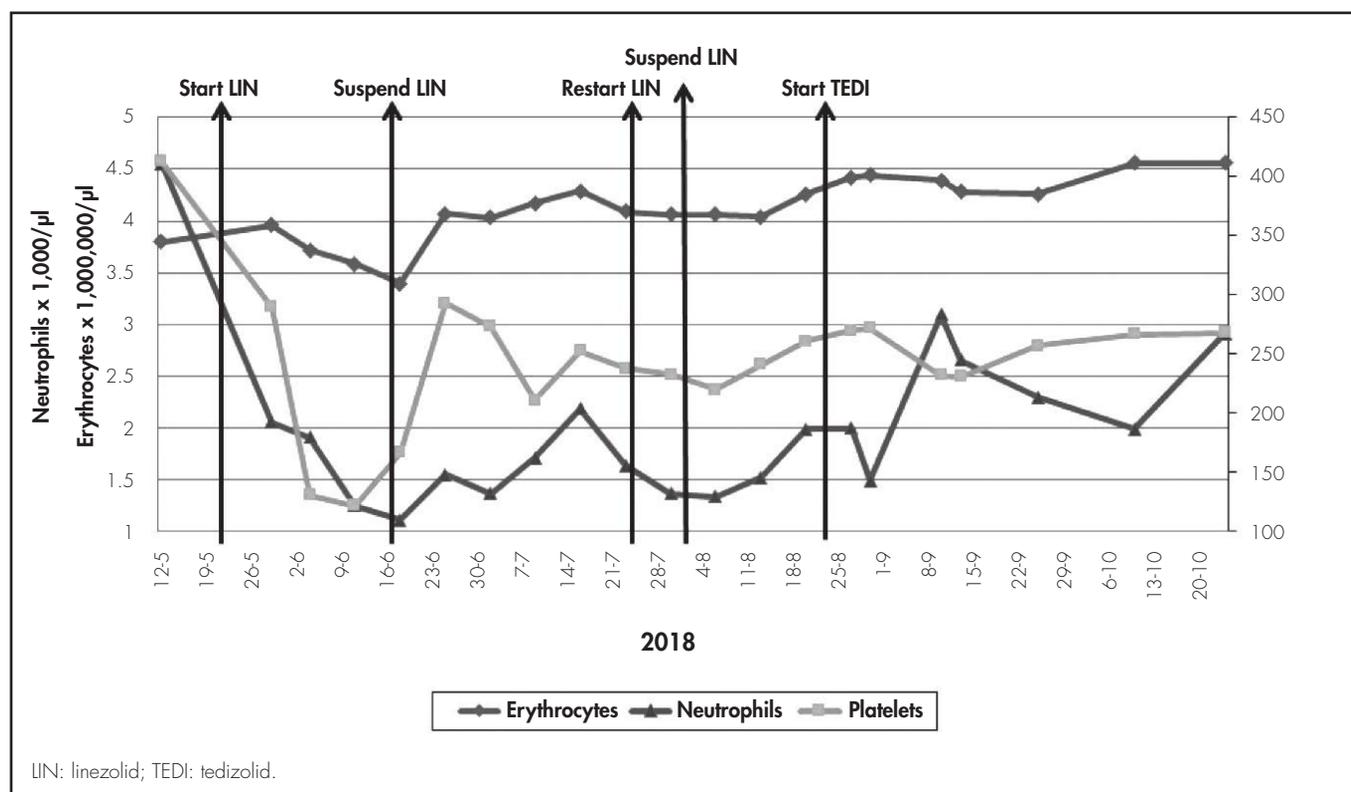
Oxazolidinones; Nocardiosis; Long Term Treatment; Tedizolid; Adverse reactions.

## PALABRAS CLAVE

Oxazolidinonas; Nocardiosis; Larga duración; Tedizolid; Efectos adversos.



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**Figure 1.** Temporal variation of blood cell count during treatment with oxazolidinones.

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