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Linezolid for the treatment of Nocardia spp. infections.

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OBJECTIVE: To review the available evidence regarding the use of linezolid for the treatment of Nocardia spp. infections.

DATA SOURCES: Data were identified through a search of MEDLINE (1966-May 2007), American Search Premier (1975-May 2007), International Pharmaceutical Abstracts (1960-2007), Science Citation Index Expanded (1996-2007), and Cochrane Databases (publications archived until May 2007) using the terms linezolid and Nocardia.

STUDY SELECTION AND DATA EXTRACTION: Prospective and retrospective studies, case reports, case series, and in vitro studies were eligible for inclusion if they used linezolid for nocardiosis regardless of site of infection and outcome.

DATA SYNTHESIS: We identified 11 published cases of linezolid use for Nocardia spp. infections. The predominant species isolated were *N. asteroides* (n = 4; 36%) and *N. farcinica* (n = 3; 27%). Nocardiosis with central nervous system involvement (n = 7; 64%) or disseminated disease (n = 4; 36%) were most common. The main reason for discontinuation of previous antimicrobials was most often related to adverse effects (n = 5; 45%), followed by clinical failure (n = 3; 27%). Linezolid was associated with cure or improvement in all cases (n = 11; 100%). However, the majority of patients developed serious complications that may have led to premature discontinuation of therapy with linezolid, including myelosuppression (n = 5; 45%) or possible/confirmed peripheral neuropathy (n = 2; 18%).

CONCLUSIONS: The limited published data suggest that linezolid appears to be an effective alternative to trimethoprim/sulfamethoxazole for the treatment of nocardiosis. Unfortunately, the high cost and potentially serious long-term toxicities of linezolid appear to limit its use and relegate it to salvage therapy alone or in combination with other antimicrobials.

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