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Clinical Care/Education/Nutrition/Psychosocial Research

Original Research

## Outcome of Diabetic Foot Osteomyelitis Treated Nonsurgically

A retrospective cohort study

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**OBJECTIVE**—The purpose of this article was to identify criteria predictive of remission in nonsurgical treatment of diabetic foot osteomyelitis.

**RESEARCH DESIGN AND METHODS**—Diabetic patients who were initially treated without orthopedic surgery for osteomyelitis of the toe or metatarsal head of a nonischemic foot between June 2002 and June 2003 in nine French diabetic foot centers were identified, and their medical records were reviewed. Remission was defined as the absence of any sign of infection at the initial or contiguous site assessed at least 1 year after the end of treatment. A total of 24 demographic, clinical, and therapeutic variables including bone versus swab culture–based antibiotic therapy were analyzed.

**RESULTS**—Fifty consecutive patients aged  $62.2 \pm 11.1$  years (mean  $\pm$  SD) with diabetes duration of  $16 \pm 10.9$  years were included. The mean duration of antibiotic treatment was  $11.5 \pm 4.21$  weeks. Bone biopsy was routinely available in four of the nine centers. Overall patient management was similar in the different centers except for the use of rifampin, which was recorded more frequently in patients from centers in which a bone biopsy was available. At the end of a 12.8-month posttreatment mean follow-up, 32 patients (64%) were in remission. Bone culture–based antibiotic therapy was the only variable associated with remission, as determined

by both univariate (18 of 32 [56.3%] vs. 4 of 18 [22.2%],  $P = 0.02$ ) and multivariate analyses (odds ratio 4.78 [95% CI 1.0–22.7],  $P = 0.04$ ).

**CONCLUSIONS**—Bone culture–based antibiotic therapy is a factor predictive of success in diabetic patients treated nonsurgically for osteomyelitis of the foot.