Neuroarthropathy Changes After First Ray Surgery in the Diabetic Foot

Elizabeth Sanders, DPM1, Wei Tseung DPM1, Ann Grealish, DPM1, Hau Pham, DPM2, Geoffrey Habershaw, DPM3

1Podiatric Medicine and Surgery Residents, Boston University Medical Center Department of Podiatric Surgery, Boston, MA
2Director of Clinical Research, Assistant Professor of Surgery, Boston University Medical Center Department of Podiatric Surgery, Boston, MA
3Chief of Division of Podiatric Surgery, Director of Podiatric Residency Program, Boston University Medical Center Department of Podiatric Surgery, Boston, MA

INTRODUCTION

Neuroarthropathy is commonly misdiagnosed as cellulitis and/or osteomyelitis in diabetic patients. Acute stages of neuroarthropathy are treated with immobilization and off-loading. Debridement is treated with antibiotic therapy, usually in conjunction with surgical debridement. It is essential to distinguish neuroarthropathic changes from infection. Missed diagnosis could lead to improper treatment, further destruction of the deformity, or amputations.

METHODS

A retrospective chart review of three cases involving diabetic patients who underwent prophylactic first ray surgeries to prevent diabetic foot ulcer recurrence was performed. Post-operatively, the patients developed swelling after the surgical site healed. Radiographic exam of fragmented bone were interpreted as osteomyelitis by radiologists.

RESULTS

After clinical diagnosis of neuroarthropathy, the patients were treated conservatively with strict off-loading. All fractures healed without need for further surgery or amputations. Areas that were interpreted radiographically as osteomyelitis eventually consolidated.

CONCLUSION

These three cases present patients who developed neuroarthropathic changes that were interpreted as osteomyelitis from radiographic findings. Clinical diagnosis of neuroarthropathic deformity overwhelmed radiological suspicion of osteomyelitis. It is important to depend on clinical judgment to differentiate neuroarthropathy from an infectious process to avoid unnecessary amputations.

REFERENCES