SCIENTIFIC PAPER

Local Experience of the Use of Interlocking Compression Nails for Tibial Fractures

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ABSTRACT

Objective: The fixation of tibial fractures is challenging, especially when the fractures involve the proximal or the distal metaphysis. This article reports the experience at the Pamela Youde Nethersole Eastern Hospital of the use of the interlocking compression nail in the treatment of closed and open tibial fractures.

Patients and Methods: From January 2000 to April 2002, patients who received interlocking compression nails for their tibial fractures were monitored until they were fully rehabilitated. The configuration of the nail, size and length of the nail used, intraoperative application of active compression of the fractures, mode of interlocking, use of any additional procedures such as bone grafting and dynamisation, time required for radiological healing, presence of complications, and the time of implant removal were studied retrospectively from medical records.

Results: Twenty two patients with acute tibial fractures were recruited into this study. All but 1 of the fractures showed radiological union in a mean of 16.6 weeks (range, 7 to 42 weeks). Full knee and ankle motion was preserved for all patients. There was no major complication such as compartment syndrome or pulmonary embolism. No mechanical nail failure was noted. Minor complications included broken distal locking bolt (n = 1), proximal locking bolt impingement (n = 1), and transient peroneal nerve palsy (n = 3).

Conclusion: The interlocking compression nail is effective for the treatment of tibial fractures, especially of those located at the distal metaphysis.

Key Words: Bone nails, Fracture fixation, intramedullary, Tibial fractures/surgery, Treatment outcome

INTRODUCTION

Biological plating and less invasive stabilisation techniques for the treatment of long bone fractures have been increasingly used in recent years. However, intramedullary nailing is still considered the standard treatment for fractures of the tibial shaft. Advancements in design and manufacturing technology have extended the indications for intramedullary nailing in orthopaedic surgery. When Kuntscher devised the first intramedullary nail, it was a slotted metallic nail that...