Technique and short-term results of ankle arthrodesis using anterior plating

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Abstract:

Clinical and biomechanical trials have shown that rigid internal fixation during ankle arthrodesis leads to increased rates of union and is associated with a reduced infection rate, union time, discomfort and earlier mobilisation compared with other methods. We describe our technique of ankle arthrodesis using anterior plating with a narrow dynamic compression plate (DCP). Between 2004 and 2007, 29 patients with a mean age of 24.4 years (range 18–42) had ankle arthrodesis using an anteriorly placed narrow DCP. Twenty-two patients were post-traumatic and seven were paralytic (five after spine fracture and two after common peroneal nerve injury). Follow-up was between 12 and 18 months (average 14 months). A rate of fusion of 100% was achieved at an average of 12.2 weeks. According to the Mazur ankle score, 65.5% had excellent, 20.7% good and 13.8% fair results. Ankle arthrodesis using an anteriorly placed narrow DCP is a good method to achieve ankle fusion in many types of ankle arthropathies. Introduction Ankle arthrodesis has become a well-established surgical procedure for severe ankle arthropathy. The rate of union varies according to the surgical technique and the type of patient. While successful results have been reported by many [1, 2], nonunion rates as high as 40% [3] have been described. Numerous complications have been reported including nonunion, delayed union, breakdown of union, pin tract infection, delayed wound healing, skin necrosis and below knee amputation for intractable pain and infection [4–7]. To date more than 30 different methods have been reported with different surgical approaches, articular surface preparation, types of fixation, use of bone graft and postoperative care [8, 9]. Clinical and biomechanical trials have shown that rigid internal fixation leads to increased rates of union and is also associated with a reduced infection rate, a decreased time of union, less discomfort, and earlier mobilisation compared with other methods [9, 10]. This study aimed at assessing the rate, time of union and complications using anterior plating for ankle arthrodesis.

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