

Findings of Routine Diagnostic Ankle Arthroscopy for Management of AO 44-C Fibular Fractures

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Introduction/Purpose: High fibula fractures, including Maisonneuve and Weber type C fractures are commonly associated with syndesmotic injuries resulting in subluxation and dislocation of the ankle. These injuries to the joint are rarely evaluated or addressed during operative fixation, which generally consists of open reduction internal fixation of the fibula with or without fixation of the syndesmosis. Chondral lesions and loose bodies in ankle fractures may predict a poor result and can be addressed using arthroscopy to avoid exacerbating articular damage. The purpose of this study is to identify the frequency and severity of articular pathology in Weber C and Maisonneuve fibula fractures.

Methods: A single surgeon case series of operatively managed ankle fractures with arthroscopic assessment from 2011-2015 was retrospectively reviewed. Inclusion criteria were patients with AO 44-C ankle fractures who were aged >17 and underwent arthroscopic assessment of the ankle joint prior to open reduction and internal fixation. Patients were excluded from the series if they presented <2 weeks from the time of injury, had a pilon variant, or had incomplete medical records available. Demographic information on the patients including age, sex, and BMI were collected. Information on mechanism of injury was recorded. Operative reports were reviewed and the presence of chondral injury and loose bodies was recorded. Descriptive statistics were performed on the collected data.

Results: 18 patients (12 male, 6 female) with a mean age of 38.3 years (range 17-61; SD 13.9) were included in the case series. The average BMI 29.6 (SD 6.92). Five of the included fractures were Maisonneuve fractures while the remaining 13 were Weber C ankle fractures. The mechanism of injury of the fracture was low energy in 12, high energy in 1, and unknown in 5. On arthroscopic examination, 12 (66.7%) of the fractures were associated with full thickness articular cartilage injury requiring formal chondroplasty, 16 (88.9%) were associated with a minimum of partial articular damage, and only 2 (11.1%) had no articular damage identified on arthroscopy. Additionally, 12 (66.7%) had loose bodies that were removed during ankle arthroscopy.

Conclusion: This study adds to a growing collection of literature concerning chondral injuries during ankle fractures. The data from this study suggest that AO 44-C fibular fractures are associated with a high rate of intraarticular pathology that can be effectively identified and managed during arthroscopy. Prospective studies are required to determine if there are therapeutic benefits to routine ankle arthroscopy in AO 44-C ankle fractures.

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