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## **Ankle arthrodesis via a transfibular approach and circular external fixation**

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### **ABSTRACT**

**Objective:** To present the radiographic and functional outcomes of a series of 11 cases of ankle arthrodesis operated on with a circular external fixator using the Ilizarov method and a transfibular approach from January 2017 to June 2018.

**Methods:** The patients were evaluated using the American Orthopedic Foot and Ankle Society (AOFAS) and visual analog scale (VAS) scores. Anteroposterior and profile views of the ankle radiographs were evaluated. All patients underwent a similar procedure in terms of the surgical approach and assembly of the Ilizarov apparatus.

**Results:** During the study period, 11 cases underwent surgery; the mean age was 44.81 years (28-70 years). The mean follow-up time was 50.81 weeks (13-90 weeks). The main indication for surgery was posttraumatic secondary arthritis. The mean functional AOFAS score was 55.72 (45-64) points. Soft-tissue evaluation revealed surgical wound healing of the transfibular approach in 9 patients (81%). All patients showed signs of superficial pin- or wire-tract infection. Union was reported in 10 patients (90.9%), and the radiographic varus deformities found in 2 patients did not exceed 7°. No additional surgical procedure was required during follow-up.

**Conclusion:** Ankle arthrodesis using a transfibular approach and fixation using the Ilizarov method were efficient, promoted functional restoration considering the complexity of the cases, and resulted in a high union rate.

**Keywords:** Arthrodesis; Ankle; Transfibular approach; External fixators; Radiographic evaluation; Functional assessment.

