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Treatment of type Weber B lateral malleolus fractures: Comparison between MIPO technique and conventional approach

Gabriela Rosa Meira[1], Bruno da Silva Alexandre[1], Felipe Alves do Monte[1], Aureliano Duarte Bezerra[1], Luís Antonio Teixeira da Silva Kloss[1], Ygor Falcão Gomes Mendes[2]

1. Santa Casa de Misericórdia do Recife, Recife, PE, Brazil
2. Universidade de Pernambuco, Recife, PE, Brazil

Correspondence: Gabriela Rosa Meira. **Email:** gabrielarosameira@gmail.com

Introduction: Displaced fractures (>2 mm) of the lateral malleolus, without associated lesions, still generate debate as to the ideal management. Historically treated with cast immobilization, they began to have an expanded surgical indication, searching for faster functional recovery and reduction of the risk of secondary osteoarthritis. The minimally invasive technique (MIPO) appears as an alternative to the traditional open approach, with potential reduction of tissue aggression. This study aims to evaluate the MIPO technique for the treatment of type Weber B lateral malleolus fractures, comparing it with the conventional open approach in terms of functional recovery, operative time, and complications.

Methods: Prospective, randomized study involving 40 patients undergoing osteosynthesis with a 1/3 tubular plate. Participants were divided into two groups: open lateral access (n = 19) and MIPO technique (n = 21). Surgical time, complications, and function were assessed using the AOFAS score at weeks 2, 6, and 12 postoperatively.

Results: Surgical time was significantly shorter in the MIPO group (median 22 minutes) compared to the conventional group (46 minutes; $p < 0.001$). At the 2-week evaluation, the AOFAS score was higher in the MIPO group (median 76 vs. 65; $p = 0.046$), with better gait performance, range of motion, and distance traveled. At weeks 6 and 12, both groups showed satisfactory functional recovery, with no statistically significant difference in final scores (98.56 vs. 95.25; $p = 0.136$) or in the postoperative complication rates.

Conclusion: The MIPO technique proved safe and effective for treating Weber B lateral malleolus fractures, with shorter surgical time and earlier functional recovery compared with the open approach, without increasing complications or impairing final results.

Keywords: Ankle fractures; Gait; Fracture fixation, internal.

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