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Arthroscopic treatment of osteochondral lesions of the talus using platelet-rich fibrin biological scaffold

Tiago Soares Baumfeld[1], Matheus Kuffner[2], Bruno Magalhães Gomes Macedo[2], Eli Ávila Souza Junior[3], Benjamim Dutra Macedo[2], Daniel Soares Baumfeld[1]

1. Universidade Federal de Minas Gerais – UFMG, Belo Horizonte, MG, Brazil
2. Hospital Felício Rocho, Belo Horizonte, MG, Brazil
3. Universidade Federal de Alfenas, Alfenas, MG, Brazil

Correspondence: Tiago Soares Baumfeld **Email:** tiago.baumfeld@gmail.com

Introduction: Osteochondral lesions of the talus (OLT) are a frequent cause of chronic ankle pain and functional limitation. Single-stage biological strategies, such as autologous platelet-rich fibrin (PRF), have been proposed as scaffolds to enhance repair.

Methods: This retrospective case series evaluated patients with symptomatic OLT treated arthroscopically with lesion preparation and application of an intraoperatively prepared autologous PRF scaffold (A-PRF membrane and i-PRF), with a minimum follow-up of 18 months. Outcomes included AOFAS, FAOS, and VAS scores, return to sports, and complications.

Results: Thirty-six patients (14 women, 22 men; mean age 39 years) were included. AOFAS improved from 54.1 to 82.6 ($p < 0.001$), and VAS pain decreased from 7.58 to 2.69 ($p < 0.001$) at final follow-up. FAOS domains improved substantially, including quality of life (25.2 to 63.9). More than 80% of patients returned to sports at a mean of 7.6 months. The complication rate was 11.1%, including transient paresthesia, superficial wound infection, and one reoperation.

Conclusion: Arthroscopic treatment of OLT augmented with an autologous PRF scaffold was associated with improved pain and function at mid-term follow-up with an acceptable complication rate. Comparative studies are needed to determine the incremental benefit of PRF over marrow stimulation alone.

Keywords: Biological products; Scaphoid bone; Talus; Arthroscopy.

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