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Original Article

Mechanical instability after acute ankle ligament injury: randomized prospective comparison of two forms of conservative treatment[★]

Marcelo Pires Prado,^{a,*} Túlio Diniz Fernandes,^b Gilberto Luis Camanho,^c
Alberto Abussamra Moreira Mendes,^d and Daniel Tassetto Amodio^d

^aMSc in Medicine; Orthopedist at Hospital Israelita Albert Einstein, São Paulo, SP, Brazil

^bAssociate Professor at the School of Medicine, Universidade de São Paulo, São Paulo, SP, Brazil

^cTitular Professor of the Department of Orthopedics and Traumatology, School of Medicine, Universidade de São Paulo, São Paulo, SP, Brazil

^dOrthopedist at Hospital Sírio Libanês, São Paulo, SP, Brazil

^eOrthopedist at Hospital do Coração, São Paulo, SP, Brazil

Work performed at Hospital Israelita Albert Einstein and in the Department of Orthopedics and Traumatology, School of Medicine, Universidade de São Paulo, São Paulo, SP, Brazil

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ABSTRACT

Objective: This trial has the objective to investigate the incidence of mechanical ankle instability after the conservative treatment of first episode, severe ankle ligamentar lesions. This common lesion affects young, professional and physical active patients, causing important personal and economic consequences. There are difficulties related to adequate diagnosis and treatment for these lesions. **Method:** 186 patients with severe ankle ligament lesions were included in this trial. They were randomized in two treatment options. In group A patients were treated using ankle long orthosis, weight bearing allowed as comfortable, pain care, ice, elevation with restricted joint mobilization for three weeks. After that they were maintained in short, functional orthosis (air cast), starting the rehabilitation program. In group B patients were immobilized using a functional orthosis (air cast), following the same other sequences that patients in group A. **Results:** We did not find significant differences in relation to the residual mechanical ankle instability between both groups. We did not find differences in the intensity of pain, but the functional evaluation using AOFAS score system showed better results in the functional treatment group. **Conclusion:** The functional treatment (Group B) had better AOFAS score and few days off their professional activities, comparing with patients treated with rigid orthosis (Group A), without increased chance in developing ankle mechanical instability.

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[★]Work performed at Hospital Israelita Albert Einstein and in the Department of Orthopedics and Traumatology, School of Medicine, Universidade de São Paulo, São Paulo, SP, Brazil

*Corresponding author at: Av. Albert Einstein, 627, bl B1, 3º andar, cons. 320, Morumbi, São Paulo, SP, Brazil. CEP: 05652-900.

E-mail: mpprado@einstein.br (M.P. Prado)

Instabilidade mecânica pós-lesão ligamentar aguda do tornozelo. Comparação prospectiva e randomizada de duas formas de tratamento conservador

R E S U M O

Palavras-chave:

Articulação do tornozelo
Ensaio clínico controlado
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Objetivo: O presente trabalho tem como objetivo a avaliação da incidência da instabilidade articular mecânica resultante do tratamento conservador de lesões ligamentares agudas graves do tornozelo em pacientes sem antecedentes de traumas nessa articulação. **Métodos:** Foram incluídos neste estudo 186 pacientes portadores de lesão ligamentar aguda grave do tornozelo. A amostra foi randomizada em dois grupos de tratamento. Os pacientes incluídos no grupo A foram tratados com imobilização suropodálica imediata, carga permitida conforme tolerado, analgesia, gelo, elevação e mobilização leve da articulação do tornozelo por três semanas. Em seguida os pacientes foram imobilizados com ortese curta funcional (tipo air cast esportivo) e encaminhados para programa de reabilitação fisioterápica. No grupo B os pacientes foram imobilizados no primeiro atendimento com ortese curta funcional, carga permitida conforme tolerado, analgesia, gelo, elevação e mobilização leve da articulação por três semanas e em seguida encaminhados para programa de tratamento fisioterápico, como no outro grupo. **Resultados:** Não encontramos diferença significativa com relação à evolução para instabilidade mecânica entre os grupos. Da mesma forma não houve diferença na incidência de dor, mas a avaliação por meio do método de pontuação da Associação Americana dos Cirurgiões de Pé e Tornozelo (AOFAS) mostrou melhores resultados nos pacientes submetidos ao tratamento funcional. **Conclusão:** O tratamento funcional, grupo B, teve melhores resultados na escala de pontuação AOFAS, comparativamente ao grupo tratado com ortese rígida (Grupo A), sem haver maior chance de evolução para instabilidade articular mecânica.

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Introduction

Ankle ligament injuries are among the commonest causes of medical attendance at emergency services and consultation offices.

They most frequently affect young patients who are involved in regularly practicing physical activities and who are professionally active. For this reason, the treatment should have the objectives of normalizing joint function (normal mobility and joint stability) and enabling a return to the professional and physical activities of daily living prior to the occurrence of the injury, as early as possible.

Ligament injuries are classically categorized in accordance with their severity, as grade 1, spraining of the ligament affected; grade 2, partial injuries, without joint instability; and grade 3, complete injury, with compromised joint stability. Cases of partial ligament injury are basically treated in a conservative manner, with an early return to the activities prior to the injury. Acute ligament injuries with joint instability were the focus of the present study, given that the incidence of residual mechanical instability after this type of injury is still a matter of discussion in the literature. There are situations in which functional instability is confused with mechanical instability.

Uniformization of treatment methods, with use of commercially accessible orthoses, makes it possible to compare the results from such procedures more adequately and makes it easier to reproduce them. In the literature, this matter is imperfectly addressed, given that many treatment methods

for ankle ligament injuries that are not easily reproducible are described.

We found discussions on treatment methods in the literature, but there is a consensus that in cases of severe acute injuries without previous chronic instability, the treatment should be conservative. Surgical treatment is reserved for patients who evolved into situations of chronic mechanical joint instability.

Lack of immobilization in half of the patients with acute ankle ligament instability and a rapid return to activities may interfere with the healing process, with consequent greater chance of developing chronic mechanical instability.

Despite adequate description of the mechanism of such injuries, the physical examination and the diagnostic criteria, a recent Brazilian study¹ showed that orthopedists and residents have difficulties in making a proper diagnosis and in classifying acute ankle ligament injuries, and that there is no consensus regarding the ideal treatment.

The present study had the objective of evaluating the incidence of mechanical joint instability resulting from conservative treatment of acute ankle ligament injuries, by means of clinical and radiographic evaluations, among patients without histories of trauma in this joint, divided randomly into two groups. In the first group, the patients were initially immobilized using a long orthosis from the calf to the foot for three weeks, followed by a functional orthosis for another three weeks. In the second group, after making the diagnosis,

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