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Original Article

Muscle injury: current perspectives and trends in Brazil ☆,☆☆



Diego Costa Astur*, João Vitor Novaretti, Renato Kalil Uehbe, Gustavo Gonçalves Arliani, Eduardo Ramalho Moraes, Alberto de Castro Pochini, Benno Ejnisman, Moises Cohen

Paulista Medical School, Federal University of São Paulo (UNIFESP), São Paulo, SP, Brazil

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ABSTRACT

Objective: To evaluate the management, procedures and perspectives of sports physicians and orthopedists in Brazil with regard to diagnosing and treating muscle injuries.

Methods: A questionnaire containing 20 questions relating to the topic of muscle injury was applied to sports physicians and orthopedists during the Second Brazilian Congress of Arthroscopy and Sports Traumatology, in 2013.

Results: Completely answered questionnaires were received from 168 sports physicians and orthopedists. Doctors from all regions of Brazil with a mean of 11 years of experience of treating muscle injuries were interviewed. Lower limbs were affected in 97% of the cases, particularly the quadriceps, adductor and sural triceps. The injury occurred during the eccentric phase in 62% of the interviews; 39% underwent ultrasound examination and 37% magnetic resonance imaging (MRI) for the injury to be diagnosed. Medication, rest and cryotherapy during the acute phase (87.5%) and medication, rest and physiotherapy during treatment of the injury (56%) were the prevalent options. The criteria for returning to sports were very subjective and disparate among the options presented, and most of the interviewees had already used some therapy that was adjuvant to traditional methods.

Conclusion: The number of muscle injuries treated per year was greater than 30, independent of whether in the public or private sector. These injuries occurred mainly at the muscle-tendon junction, in the lower limbs and during the eccentric phase of muscle contraction. Ultrasound was the examination most performed, while MRI was considered ideal. For most of the interviewees, the preferred treatment involved rest, medication and physiotherapy. In addition, 52% believed that platelet-rich plasma was an efficient treatment and 42% said that they had already used it.

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☆☆ Work developed at the Sports Traumatology Center, Department of Orthopedics and Traumatology, Paulista Medical School, Federal University of São Paulo (Unifesp), São Paulo, SP, Brazil.

* Corresponding author.

E-mail: mcastur@yahoo.com (D.C. Astur).

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Lesão muscular: perspectivas e tendências atuais no Brasil

R E S U M O

Palavras-chave:
Lesão muscular
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Objetivo: Avaliar as condutas, os procedimentos e as perspectivas do médico do esporte e ortopedista do Brasil no diagnóstico e no tratamento de lesões musculares.

Métodos: Questionário com 20 questões relacionadas ao tema lesão musculares. Foi aplicado em médicos do esporte e ortopedistas durante o II Congresso Brasileiro de Artroscopia e Traumatologia do Esporte, em 2013.

Resultados: Responderam completamente o questionário 168 médicos do esporte e ortopedistas. Foram entrevistados médicos de todas as regiões do Brasil, com média de 11 anos de experiência no tratamento da lesão muscular. Membros inferiores são acometidos em 97% dos casos, principalmente quadríceps, adutor e tríceps sural. A lesão ocorre na fase excêntrica para 62% dos entrevistados, 39% fazem ultrassom (USG) e 37% ressonância magnética (RM) para diagnóstico da lesão. Medicação, repouso e crioterapia na fase aguda (87,5%) e medicação, repouso e fisioterapia durante o tratamento da lesão (56%) são as opções prevalentes. Os critérios de retorno ao esporte foram bastante subjetivos e díspares entre as opções apresentadas e a maioria dos entrevistados já usou alguma terapia adjuvante às tradicionais.

Conclusão: O número de lesões musculares tratadas anualmente é superior a 30, independentemente de se no setor público ou privado. Ocorre principalmente na junção miotendínea, nos membros inferiores e na fase excêntrica da contração muscular. O USG é o exame mais feito e a RM o considerado ideal. Para a maioria dos entrevistados o tratamento de escolha envolve repouso, medicação e fisioterapia. Além disso, 52% acreditam na eficiência do plasma rico em plaquetas (PRP) e 42% referem já tê-lo usado.

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Introduction

Over recent decades, the number of people taking part in sports activities around the world has progressively increased. A large part of this increase has occurred because of the extensive dissemination by the media of the benefits to health that result from regularly practicing exercise. Exercise provides improvement of quality of life and reduction of the risk of having many diseases.¹⁻³

However, it is known that the benefits from practicing sports stand in contrast to the increase in the number of osteo-muscular injuries.⁴ Almost 10 million sports-related injuries occur every year in the United States.⁵ Most of them are not very severe, but they are painful and often incapacitating, since they take people away from their physical and professional activities.⁶

Muscle injuries are the commonest of these and account for 10-55% of all sports injuries. They consist mainly of bruises, sprains and lacerations.⁷ Injuries due to sprains generally affect superficial and two-joint muscles (rectus femoris, knee flexors and gastrocnemius) and they occur during the eccentric phase of contraction.⁸ The causes are multifactorial and there are some risk factors, such as age, previous muscle injuries in the same region, ethnicity, overloading, force imbalance and alteration of the capacity to stretch the muscle group in question.⁹

However, little has changed over recent decades regarding the way in which muscle injuries are understood and treated. The aim of the present study was to evaluate the

conceptualizations, diagnostic methods, treatment methods and perspectives of specialist physicians through applying a questionnaire among them, on muscle injuries in Brazil. From these results, it will be possible to delimit national trends on this little studied topic and guide subsequent new research in this field.

Methods

This was a descriptive study with application of a questionnaire to a sample formed mainly by sports physicians and orthopedists. This questionnaire was composed of 20 closed questions and was drawn up by the present authors in a simple and objective manner. It covered the main topic of the subject of muscle injuries ([Appendix 1](#)).

The questionnaire was applied to physicians who routinely treat muscle injuries who were attending the Second Brazilian Congress of Sports Arthroscopy and Traumatology (SBRATE), which took place in Fortaleza in 2013.

Thus, 168 questionnaires were filled out under guidance from one of the researchers for clarifications of any doubts that may have arisen.

From the data obtained through the questionnaires that were filled out, descriptive statistics were calculated on the variables involved, in order to characterize the sample.

The data were analyzed using the SPSS for Windows software, version 16.0, and the significance level was taken to be 5%.

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