

マスターズスイマーにおける肩関節周囲筋の損傷や 石灰沈着が生じる身体的・動作的特徴の解明と その予防に向けた取り組み

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Elucidation of Risk Factors of Shoulder Periarticular Muscle Tear and Calcification in Masters Swimmers

by

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ABSTRACT

Background: Recent advancements in diagnostic imaging equipments enables us to identify the causes of pain in the rotator cuff, which has been difficult to confirm definitely. Masters swimmers often have muscle weakness and degeneration due to

aging. Therefore, the localization and causes of their pain were different from top swimmers. The purpose of this study was to clarify the factors of masters swimmers' rotator cuff pain using ultrasound, manual functional evaluation and questionnaire.

Methods: Thirty-six masters swimmers (55 ± 10.6 years old) who has shoulder pain were recruited and observed both symptomatic and asymptomatic side. The biceps brachii muscle, supraspinatus muscle, infraspinatus muscle and subscapularis muscle were visualized bilaterally by ultrasound, and edema, calcification, tear and bone deformities were documented. Orthopaedic manual evaluation of the shoulder was performed and the history of swimming and symptoms were documented.

Results: The most common abnormal findings using ultrasound were edema of the biceps brachii muscles, which was found in 52.8% of all shoulders. Calcification of subscapularis and edema of infraspinatus were observed in 31.9% and 26.4%, respectively.

Discussion: In this study, various abnormal findings were found on the shoulder even without symptoms. The physical evaluation results and ultrasound findings suggested an indirect relation between ultrasound findings and pain. In addition, the high rate of edema of biceps brachii and calcification of subscapularis were peculiar phenomenon unique to masters swimmers, and further research is necessary to conclude whether these abnormal findings are factors leading to retirement from the competition.

要 旨

本研究は、マスターズスイマーを対象に、超音波画像診断機器や徒手検査、水泳暦や泳法などの質問項目から、上腕二頭筋や肩甲下筋の水腫や石灰などの有症率を明らかにし、これらが生じる要因について検討を行った。超音波画像診断機器を用いた評価から、マスターズスイマーは先行研究で報告されているよりもかなり多くの肩周囲の異常所見が見つかった。これは痛みを有している症候肩ではもちろんだが、痛みを有していない無症候肩においても高い値を示した。一方、これらの異常所見と、その所見を有している筋への疼痛誘発テストには、統計学的な有意な関係は認められなかった。

これらの結果より、水泳は肩の内旋や屈曲など

の動作が繰り返されるため、水泳を行っていない中高齢者よりもメカニカルストレスが生じやすく、水腫や石灰が生じやすいことが示唆された。しかし、これらの所見が必ずしも痛みに直結しているわけではないため、今後も更なる研究が必要である。