

# 超小型車載型 MRI によるフィールド野球肘検診と、 外側型野球肘病態解明の試み

筑波大学 岡本嘉一  
(共同研究者) 同 寺田康彦  
同 小川健  
同 川村卓

## Field Baseball Elbow Examination by Ultra-Small In-Vehicle MRI and Attempt to Elucidate The Pathology of Lateral Baseball Elbow Injury

by

Yoshikazu Okamoto, Takeshi Ogawa  
*Faculty of Medicine, University of Tsukuba*  
Yasuhiko Terada  
*Institute of Applied Physics, University of Tsukuba*  
Takashi Kawamura  
*Faculty of Health and Sport Sciences,  
University of Tsukuba*

### ABSTRACT

**Introduction:** In Japanese youth baseball, the biggest problem is pitching abuse, that is, the elbow is considerably damaged by the baseball elbow. Therefore, we created an ultra-compact in-vehicle MRI and started field-type baseball elbow examination. The main purpose is to detect the outer baseball elbow at an early stage, and to elucidate the pathophysiology of the outer baseball elbow based on the results and the results of pitching motion analysis.

**Method:** Elbow joint MRI of 151 boy baseball players was taken in the baseball field.

Ultrasound and pitching videos were taken and motion analysis was performed.

Results: No significant results were observed because the number of subjects was still small, but MRI baseball elbow examination tended to detect the lateral baseball elbow at an early stage. It is difficult to mention whether there is a relationship between the pitching motion and the examination result.

Discussion and conclusion: The size and distribution stage of the initial image of OCD were slightly different from what was supposed to be the main cause of the outer baseball elbow. It is considered that the cause of the onset of the outer baseball elbow may be clarified in the future by conducting this examination with the same team every year.

## 要 旨

緒言：日本の少年野球では投球酷使，つまり野球肘にて肘を相当に傷めてしまうことが最も問題である。従って我々は超小型車載型MRIを制作し，フィールド型野球肘検診を開始した。主目的は外側型野球肘の早期発見にあり，その結果や投球動作解析結果をもとに外側型野球肘の病態解明を試みた。

方法：野球フィールドで151名の少年野球選手の肘関節MRIを撮影した。超音波および投球動画の撮影を行い，動作解析を行った。

結果：まだ被験者が少ないため有意な結果は認められなかったがMRI野球肘検診の方が外側型野球肘を早期に発見しやすい傾向が認められた。投球動作と肘障害に関してはまだ関連性の有無は言及しがたい。

考察と結語：初期像のサイズや分布，ステージなどは今までの外側型野球肘の主たる原因と想定していたものとはやや異なる結果であった。本検診を毎年同じチームで行うことで将来的に外側型野球肘の発症要因が明らかとなる可能性があると考ええる。