

Cervical Disc Degeneration in elite College Rugby Player

Yusuke Oshita,

Hiroaki Omata, Yoshifumi Kudo, Ryo Yamamura,
Takayuki Nakajima, Koji Ishikawa, Akira Matsuoka,
Yushi Hoshino, Koji Kanzaki, Tomoaki Toyone

None of the authors has any potential conflict of interest



昭和大学
SHOWA University

Background:

Being a contact sport,
Rugby football is frequently associated with a risk of
spinal cord injuries in players.

Although
the evaluation of intervertebral disc degeneration
as a potential cause of spinal cord injury
in contact sports is crucial,
few reports on this topic have been published to date.

Purpose:



We investigated intervertebral disc degeneration as a potential cause of spinal cord injury in rugby players according to their field positions.

Members of an elite college rugby team were subjected to magnetic resonance imaging (MRI) at a medical checkup, and the data were used to evaluate intervertebral disk degeneration.

Patient sample:

65 team members (33 forwards and 32 backs)

Age 19.2 (18–21) years

Experience of playing rugby of 8.6 (3–16) years

The average height and weight were

175 (156–189) cm and 84.7 (60–117) kg,

Forward players (FW)

177(166-189)cm

95.2(117-79)kg

Back players (BK)

172(186-156) cm

74.6(60-90)kg

Methods:

T2-weighted sagittal MR images were evaluated for disc degeneration in accordance with the Pfirrmann grading system.

Simple X-ray examination was used to evaluate the thickness of intervertebral discs.

The degree of disc degeneration was then assessed according to player position.

Outcome measures:

FW



BK



T2-weighted sagittal MR images were evaluated for disc degeneration

Outcome measures:

FW

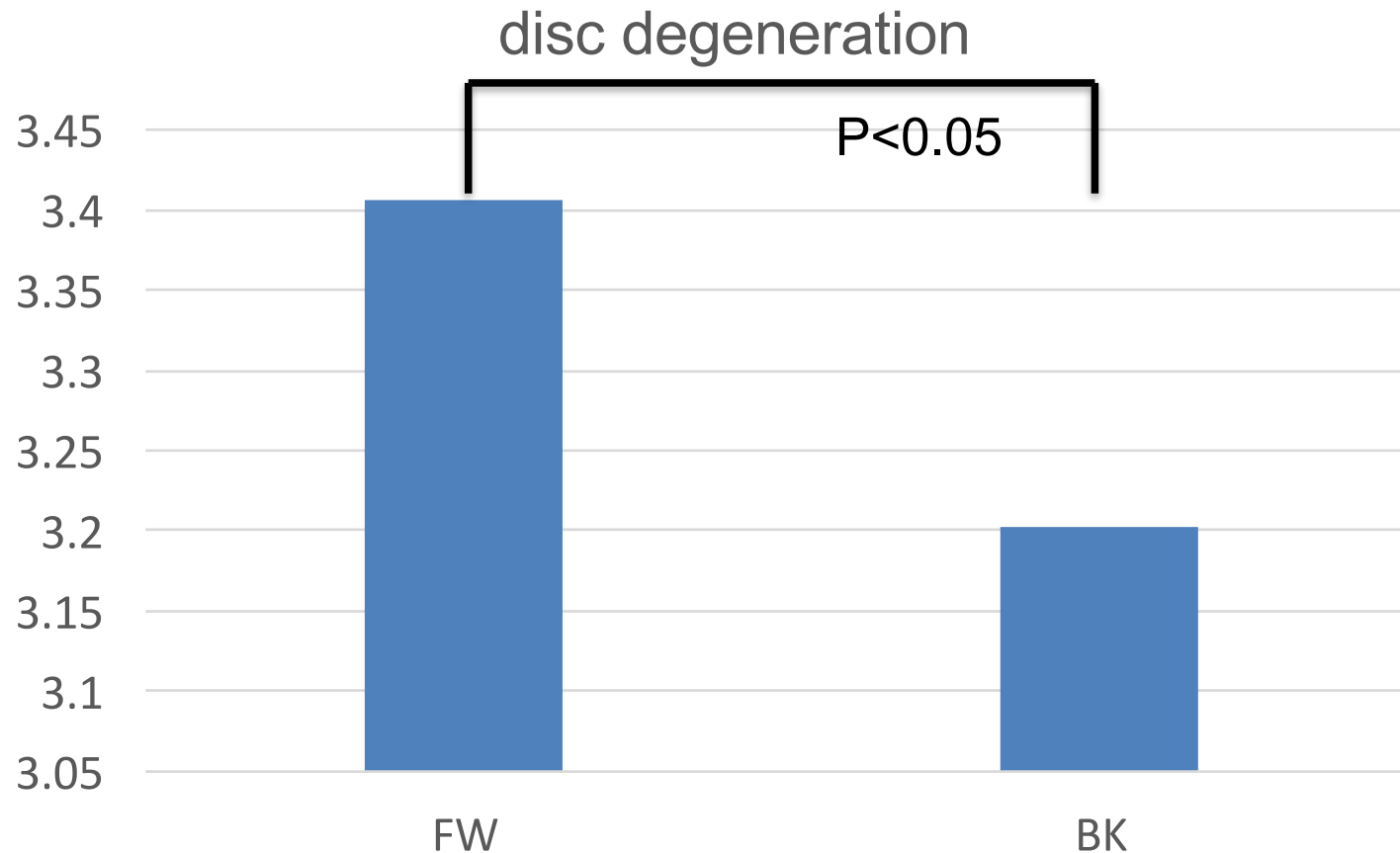


BK



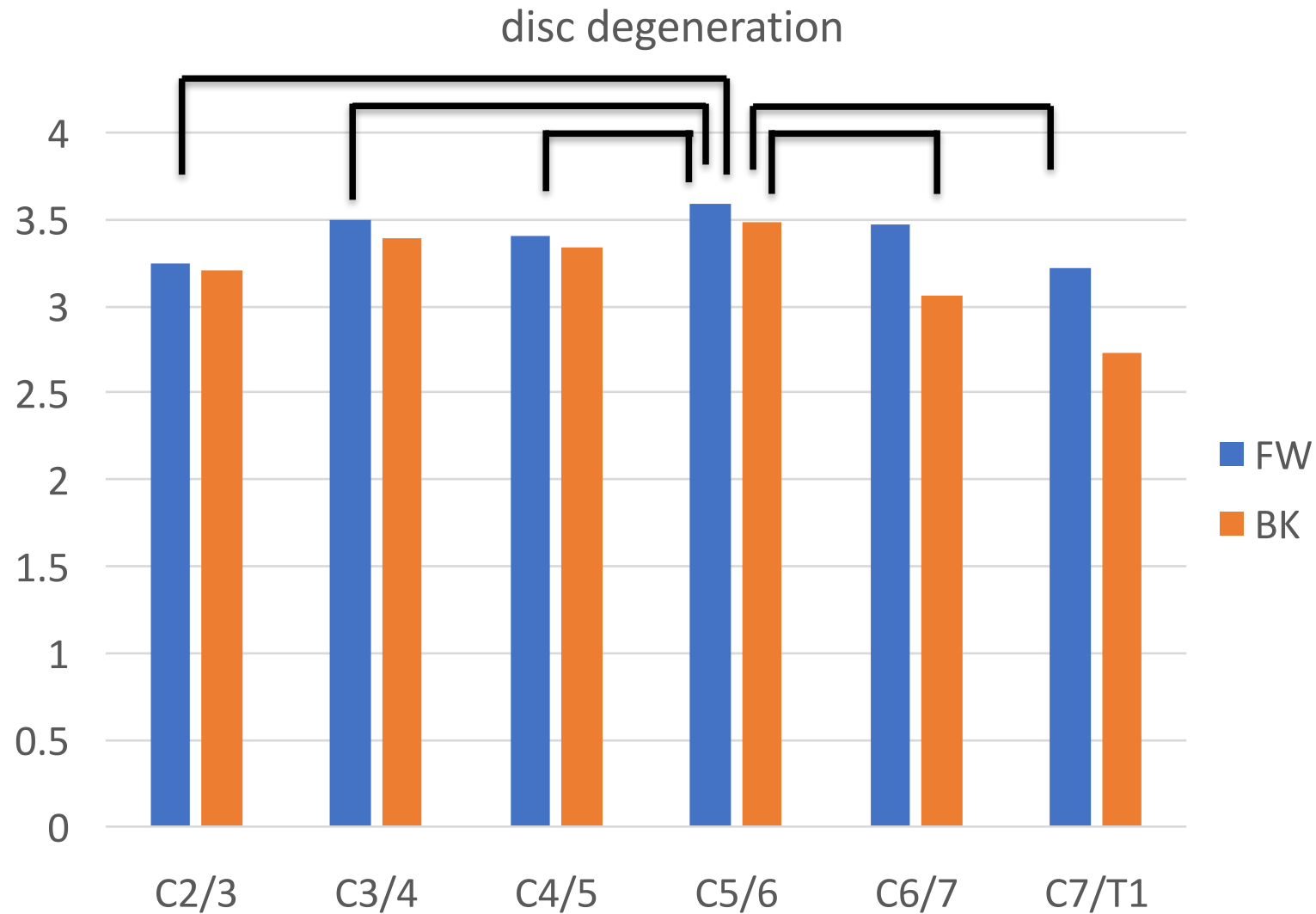
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Results:



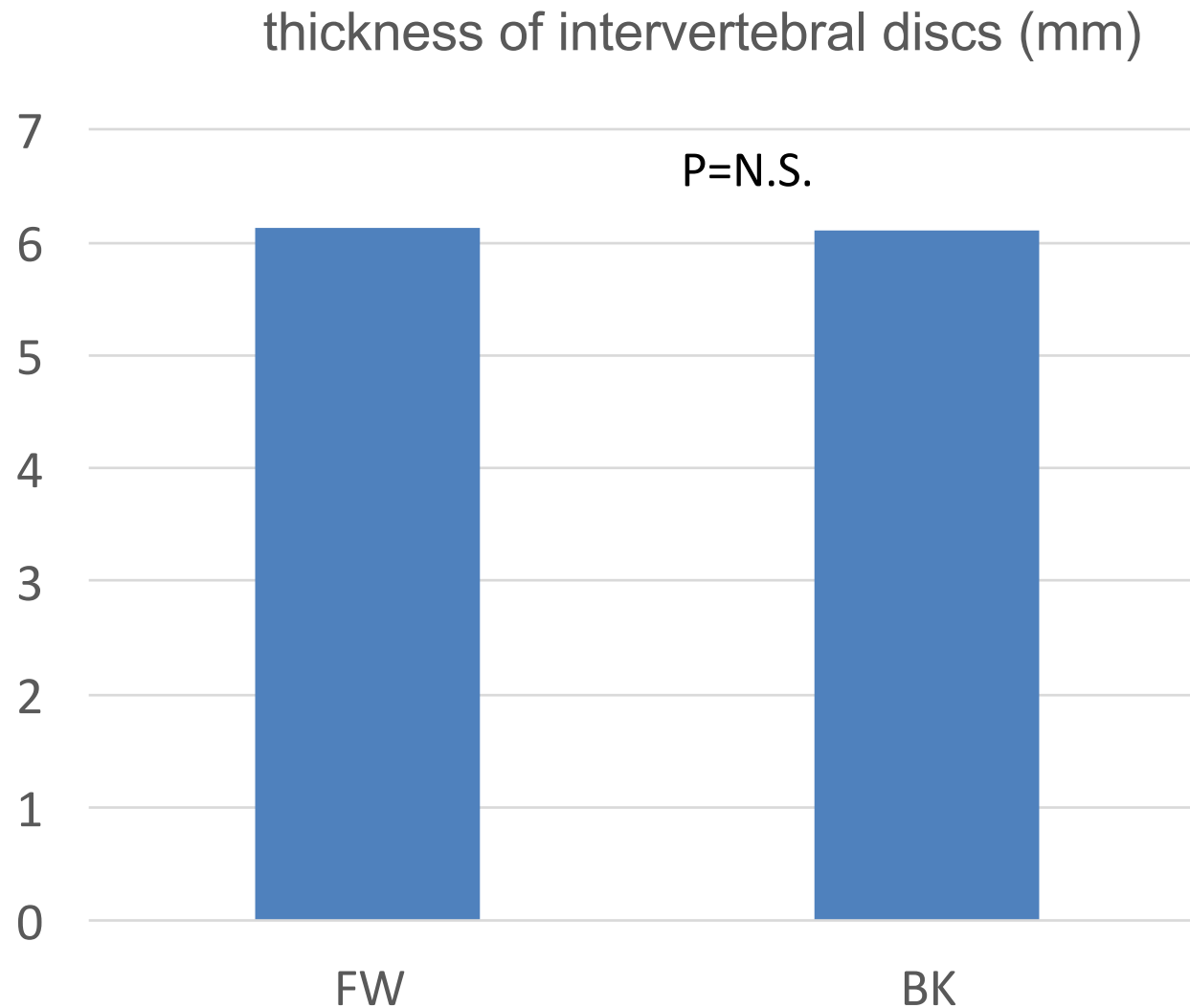
The mean Pfirrmann disc degeneration grade was 3.4 in the forward players and 3.2 in the back players

Results:



significantly greater degeneration of the C5 and C6 vertebrae than those of other cervical vertebrae in both the players.

Results:



No Difference between the forward players and the back players

Discussion:

Although all players in a rugby team engage in moves that require physical contact, such as tackles, the eight forward players are more likely to be involved in contact situations, such as scrums, mauls, and rucks, which exert greater stress on the neck.

This indicated that forward players, who were more likely to engage in frequent physical contact might be more advanced degrees of disc degeneration than the back players.

Discussion:

26% of the Japanese population aged ≤ 50 years show a disc degeneration grade of ≥ 4 .

Teraguchi M, et al: Osteoarthritis and Cartilage **22**:104-110, 2014

Such physical stress is a major factor contributing to the more advanced disc degeneration among the forward players.

Conclusions:

Cervical intervertebral disc degeneration was more advanced in rugby players than in the general population.

In terms of rugby field positions, degeneration was more advanced in forward players than in back players.

However, further research is required for the prediction and prevention of sporting injuries.