

RADIOGRAPHIC INVESTIGATION OF THE ANKLES OF FEMALE COLLEGIATE FOOTBALL (SOCCER) PLAYERS WITH ANKLE INSTABILITY

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Introduction

Ankle sprain is very common in soccer players. The purpose of this study was to investigate the characteristics of X-ray images of the ankles of female collegiate soccer players.

Methods

We studied 40 ankles of 29 players (mean (SD) age, 19.2 (0.9) years and mean (SD) career, 7.9 (3.0) years). The instability group comprised 25 ankles that had suffered frequent ankle sprains and demonstrated subjective ankle instability. The control group comprised 15 ankles with no history of lower extremity injury. We obtained plain and stress X-rays (by using a Telos SE) of the foot and ankle to examine ankle instability.

Results & Discussion

In the instability group, there were 9 cases of os trigonum incidence (36%), no cases of accessory ossification center on the distal end of the tibia (Os subtibiale) (0.0%), no cases of accessory ossification center on the distal end of the fibula (Os subfibulare) (0.0%), 7 cases of impingement exostosis (tibia) (28.0%), 11 cases of impingement exostosis (talus) (44.0%), 11 cases of spur on distal end of the tibia (44.0%), and 1 case of spur on distal end of the fibula (4.0%). The mean (SD) talar tilt angle was 9.2° (4.7°), the rate of anterior displacement of the talus was 26.4° (8.5°), and the score for evaluating functional ankle instability was 75.1 (12.3) points. The incidence of impingement exostosis (tibia) and spurs on the distal end of the tibia in the instability group was significantly high as compared to in the control group. In addition, the following value was significantly high in the instability group as compared to in the control group ($p < 0.05$).

Conclusion

On the other hand, there was no difference between the instability group and control group with regard to the incidence of os trigonum and impingement exostosis (talus). The results of this study suggest that impingement exostosis (tibia) and spurs are the factors causing ankle instability and spur results from the alteration across the ages.