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Cumulative Incidence of Osteochondritis Dissecans of the Capitellum in Pre-Adolescent Baseball Players

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Summary:

The risk of OCD of the capitellum developing within a 1-year period in pre-adolescent baseball players was 1.8%.

Abstract:

Purpose

To quantify the 1-year cumulative incidence of capitellar osteochondritis dissecans (OCD) in pre-adolescent baseball players and identify the risk factors associated with this condition.

Methods

In total, 1275 school-aged baseball players (aged 6–11 years) without an established diagnosis of capitellar OCD were enrolled in this longitudinal, observational study. One year later, all players underwent ultrasonographic examination of the throwing elbow on the playing field. Elbows with abnormal ultrasonographic findings at this time then underwent radiographic examination. Data for the groups with and without capitellar OCD were analyzed using multivariate logistic regression models.

Results

The 1-year cumulative incidence of capitellar OCD was 1.8% (95% confidence interval 1.1–2.7%). In multivariate analysis, players aged 10–11 years were 3.96 times more likely to have capitellar OCD (95% confidence interval 1.10–18.97) than those aged 6–9 years, but starting baseball at an earlier age, number of years played, training hours per week, player position, and history of elbow pain were not significantly associated with capitellar OCD. Only 34.8% of players with capitellar OCD reported elbow pain.

Conclusion

The risk of OCD of the capitellum developing within a 1-year period in pre-adolescent baseball players was 1.8%. Players aged 10–11 years had a significantly greater risk of developing capitellar OCD than those aged 6–9 years.