

Risk Factors And Time To Recurrent Ipsilateral And Contralateral Patellar Dislocation: A Population-Based Study

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Summary:

At 20 years, cumulative incidence of ipsilateral recurrent patellar dislocation was 36.4% compared to 5.9% for contralateral dislocation and in addition, trochlear dysplasia, patella alta, age =18 years at time of first dislocation, and female gender were associated with recurrence

Abstract:

Background: Previous studies have reported variable rates of recurrent lateral patellar instability, mainly due to limited cohort size. In addition, there is currently a lack of information on contralateral patellar instability.

Hypothesis/Purpose: The purpose of this study was to evaluate the rate of ipsilateral recurrent patellar dislocation and contralateral patellar dislocation following first-time lateral patellar dislocation. Additionally, risk factors associated with recurrent dislocation (ipsilateral or contralateral) and time to recurrence were investigated.

Study Design: Retrospective cohort study; Level of evidence III

Methods: This population-based study included 584 patients with first-time lateral patellar dislocation occurring between 1990 and 2010. A retrospective review was conducted to gather information about the injury, subsequent dislocation (ipsilateral or contralateral), and structural characteristics including; trochlear dysplasia, patella alta, and TT-TG. Risk factors were assessed to delineate associations with subsequent dislocation and time to recurrence.

Results: At mean follow up of 12.4 years, 173 patients had ipsilateral recurrence and 25 patients had a first-time contralateral dislocation. At 20 years, the cumulative incidence of ipsilateral recurrence was 36.0%, while the cumulative incidence of contralateral dislocation was 5.4%. Trochlear dysplasia [OR 18.1], patella alta [OR 10.4], age <18 years at time of first dislocation [OR 2.4], elevated TT-TG [OR 2.1], and female gender [OR 1.5] were associated with recurrent ipsilateral dislocation. Time to recurrence was significantly decreased in the presence of trochlear dysplasia (23.0 months earlier time to recurrence, $p<0.001$), elevated TT-TG (18.5 months, $p<0.001$), patella alta (16.4 months, $p<0.001$), and age <18 years at time of first dislocation (15.4 months, $p<0.001$). Risk factors for subsequent contralateral dislocation included patella alta and trochlear dysplasia.

Conclusion: At 20 years following first-time lateral patellar dislocation, cumulative incidence of ipsilateral recurrent patellar dislocation was 36.0% compared to 5.4% for contralateral dislocation. Trochlear dysplasia, elevated TT-TG, patella alta, age <18 years at time of first dislocation, and female gender were associated with recurrence. Trochlear dysplasia, elevated TT-TG, patella alta, and age <18 years at time of first dislocation were predictive of a statistically significant decrease in time to recurrence.