

Femoral Neck Fracture after Arthroscopic Femoroplasty: A Systematic Review of Literature

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Summary:

This review reveals a fracture rate of approximately 0.1% after hip arthroscopies.

Abstract:

Purpose

Hip arthroscopy became a safe method for treatment of hip diseases in the last decade. Recent studies specify overall complication rates from 1.3% to 6.4%. These studies showed differences in the rate of femoral neck fractures.

Methods

Using predetermined inclusion criteria, electronic databases (EMBASE, MEDLINE, and PubMed) were searched for relevant articles addressing femoral neck fractures after arthroscopic femoroplasty between January 2003 and December 2015. Inclusion criteria limited our search to English and German language studies and occurrence of fractures within the first six month after arthroscopic femoroplasty. Article screening was conducted in duplicate. Reviewer agreement statistics and descriptive statistics of the included studies are presented.

Results

Out of 1683 articles retrieved by the literature search, we were able to include eight publications in this systematic review: five case reports and three studies investigating complications after hip arthroscopy. The fracture rate showed a range from 0.07% to 1.9%. While one study revealed male sex as a risk factor another study described the female gender at risk. All publications were able to show that patients have an increased risk with increased age. Another factor seems to be - at least for men - a taller body height. Two case reports showed an increased risk with increased bone resection. One study revealed that a resection-depth-ratio of greater than 18% leads to a 25-fold increased risk of fracture.

Conclusions

This review reveals a fracture rate of approximately 0.1% after hip arthroscopies. Patients at risk seem to be older than 50 years and/or tall male. In addition a bone resection depth of more than 10% reduces the load-bearing capacity. Male Patients seem to have a higher risk, but it is not yet clear whether sex is a risk factor.