

## The Osteoarthritic Change after Long-term Follow-up of Anterior Cruciate Ligament Reconstruction

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### Introduction

This study was performed to assess the osteoarthritic change and the clinical outcomes after 10 years follow-ups of anterior cruciate ligament reconstruction with the bone-patellar tendon-bone autograft

### Material and Methods

Of 118 cases of anterior cruciate ligament reconstruction with the bone-patellar tendon-bone autograft from 1991, the clinical and radiological examinations were performed on 46 cases who were able to be followed up for average 10 years and 8 months (range, 8.4 years to 12.8 years). The mean age at the time of surgery was 33 years (18~58). Clinical results with regard to Lysholm knee score, the range of motion, return to previous sports activity, Lachmann and pivot-shift test were evaluated. Osteoarthritic change of the knee joint according to Kellgren & Laurence's classification and the instrumented anterior stress test were evaluated.

### Result

Lysholm knee score was from 56 points (28~79) preoperatively to 92 points (71~100). According to Lachmann test at last follow-up, Grade 0 was seen in 26 cases (59%) and Grade 1 in 13 cases (34%). In the pivot-shift test, we found the same results as the Lachmann test. Only 4 patients could return to sports activity at the preinjury level. In 21 cases of 46 cases (45%), an osteoarthritic change was detected (Kellgren & Laurence grade II, 8 patients; grade III, 7 patients; grade IV, 6 patients), and 16 of these 21 cases accompanied the damage in the meniscus ( $p = 0.028$ ). In addition, the longer interval from the ligament injury to reconstruction was, the more frequently osteoarthritic change developed ( $p = 0.025$ ). There was no significant correlation between osteoarthritic change and degree of stability ( $p = 0.112$ ).

### Conclusion

After long-term follow-up of anterior cruciate ligament reconstruction with the bone-patellar tendon-bone autograft, osteoarthritis was developed more frequently (45%) than expected. This osteoarthritic change was found to be strongly correlated with the accompanied damage of the meniscus, and time interval from injury to reconstruction

**Key word:** Anterior cruciate ligament reconstruction, Bone-patellar tendon-bone autograft, Clinical results, Osteoarthritic change

### Acknowledgment

No benefits in any form have been received from a commercial party related directly or indirectly to the subject of this article.