

No. 3

**ACL Augmentation Procedure under Arthroscopy
– Ten Years Experience –
ACL Augmentation Procedure with One
– Incision Technique
– Anteromedial Bundle or Posterolateral Bundle
Reconstruction –**

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Purpose

Arthroscopic examination before ACL reconstruction sometimes reveals that there is a relatively thick ACL remnant bridging the femur and the tibia which may function to stabilize the knee, although its attachment is not same as the anatomical site. We have established an ACL augmentation procedure which preserves the ACL remnant with the one-incision technique using an autogenous semitendinosus tendon and Endobutton-CL instead of ACL reconstruction.

Materials and methods

When the ACL remnant was attached to the antero-inferior portion of the anatomical femoral origin and the postero-lateral (PL) bundle was well preserved, the antero-medial (AM) bundle was reconstructed. When, in contrast, the ACL remnant was attached to the high noon position with a well preserved AM bundle, the PL bundle should be reconstructed. We have performed 13 AM bundle reconstructions and 4 PL bundle reconstructions. This group of patients consisted of 9 females and 8 males and the age ranged from 14 to 54 years old with a mean of 31 years old. The average periods from injury to the operation were 9.0 months (2.5~33 months). We followed them up more than 1year, and joint stability of the patients was evaluated using KT-2000.

Results

The average side-to-side difference of anterior displacement of the tibia were 4.5 mm preoperatively and 1.2 mm at the final follow-up, showing statistically significant difference.

Discussion

The merits of our ACL augmentation procedure are 1) it is performed under arthroscopy with one incision 2) it avoids resection of the ACL remnant which contributes to prevention of anterior laxity 3) it preserves the ACL remnant's neural elements and mechanoreceptors 4) it provides a favorable influence on vascularity and reinnervation to the graft. Our new arthroscopic assisted ACL augmentation procedure with one incision is outlined.