Bursoscopic Ossicle Resection In Young And Active Patients With Unresolved Osgood-Schlatter Disease

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Introduction:
We sought to determine the outcomes of bursoscopic ossicle excision in young and active patients with unresolved Osgood-Schlatter disease in terms of pain relief, functional recovery, patient satisfaction and complications.

Materials and Methods:
This retrospective study included 18 male military recruits (18 knees). The ossicle excision was performed using a direct bursoscopic technique with low anterolateral and low anteromedial portals separately to avoid violation of intra-articular portion of infrapatellar fat pad. Clinical outcomes were evaluated using the Lysholm knee score, pain visual analogue scale (VAS, 0-10) and Tegner activity scale. In addition, we asked the questions of whether they could kneel or squat and whether they were able to return to their duty after surgery. Patient satisfaction was evaluated using the VAS (0-10) and the questions of whether they thought that the prominence of the tibial tuberosity was reduced and whether they had willing to recommend the same surgical treatment to others. We also evaluated complications after surgery.

Results:
All patients showed substantial improvement in terms of pain and function while subset of patients was not able to return to their duty or had difficulties with kneeling after surgery. Preoperative mean Lysholm knee score was 71, and it improved to 99 after surgery. Mean pain VAS in the preoperative period was 6.5 while it decreased to 0.9 after surgery (p < 0.001). In addition, mean Tegner activity scale was improved from 2.7 preoperatively to 6.2 at final follow-up (p < 0.001). In contrast, 4 (21%) patients were not able to return to their duty, and 4 (21%) patients still had difficulties with kneeling after surgery. One patient developed superficial infection, and there was no ossicle remained on postoperative radiographs immediately after surgery. However, focal haziness, which may be regarded as a recurrent ossicle formation, was found on follow-up radiographs in one patient even though it did not cause recurrence of symptoms. Seventeen out of 18 patients were satisfied with their surgical outcomes, and the mean VAS for patient satisfaction was 8.8 after surgery. Furthermore, all but one patient was willing to recommend the same surgical treatment to others, while 6 (33%) patients did not feel any reduction in prominence of tibial tuberosity.

Discussion:
We performed the study with relatively large number of patients with a mean follow-up of 45 months. Thus, we believe that this study can provide valuable information to the readers with regard to results of bursoscopic surgical treatment of unresolved Osgood-Schlatter disease.
Conclusion:  
Bursoscopic technique of ossicle excision showed satisfactory outcomes in selective young and active patients with persistent symptoms. However, bursoscopic surgery has limitation to reduce the prominence of the tibial tuberosity. Our findings should be considered when counseling patients with unresolved Osgood-schlatter disease and choosing treatment options.

References:  