COMMENTARY

A commentary on the functional outcome of surgical treatment for knee osteochondritis dissecans with Herbert screw

Osteochondritis dissecans (OCD) is a subchondral bone lesion that mainly affects juveniles and young adults. Healing rates of stable OCD lesions treated by nonoperative methods are reported to be between 50% and 94%. The clinical staging system of OCD is mainly based on the findings of arthroscopy, magnetic resonance imaging, and radiography, as first published by Dipaola et al. The stage I OCD lesion is classified as a stable lesion. Stage II and III lesions are classified as unstable lesions. Stage II is defined as the period of time with articular cartilage breached with a definable but not displaceable fragment. Stage III is defined to be the same as stage II, but with a displaceable fragment. Stage IV is for a loose body. Unstable lesions are thought to require surgical fixation, including drilling, debridement, bone grafting, and fixation with implant. Wang et al had collected eight cases that had been diagnosed with OCD and had undergone Herbert screw insertion. In the short-term follow-up, seven out of the eight patients demonstrated a satisfactory result according to the Knee injury and Osteoarthritis Outcome Score.

Several methods of management exist for stable and unstable OCD lesions. For stable lesions, drilling the subchondral bone with intention to stimulate vascular ingrowth and subchondral bone healing is thought to be effective for stable OCD lesion healing. For unstable lesions, Smillie has developed open reduction and internal fixation with a nail. Surgical interventions for fixation of the loose body of the knee include Kirschner wires, cannulated screws, Herbert screws, and bone pegs. Johnson et al have performed fragment fixation with cannulated AO-type screws via an arthroscopic method for treating 35 knees. The results, compared with other in situ methods, were good or excellent in 90% of cases. The Herbert screw, bone pegs, and biodegradable screw fixation method have the advantage of not requiring removal of the implant. I believe using Herbert screw fixation for unstable OCD is a good option to treat troublesome disease.

I have some further comments regarding this article. First, the preliminary reports in Dr Wang’s series only had a small number of cases, and a lack of long-term follow-up. Dr Wang should collect more cases to prove the efficiency of this fixation technique. Second, the viability of the displaceable fragment (stage III) should be clarified more during the arthroscopic procedure. Third, the match between the fragment size and number of fixation screws should be explained clearly to the readers.

In summary, Wang et al have performed a good study and have shared their experience of treating unstable OCD by arthroscopic debridement and fixation with a Herbert screw. The key points to successful results are: strict patient selection, proper OCD magnetic resonance imaging and arthroscopic staging, short duration of symptoms (<6 months) and experienced surgical technique with Herbert screw fixation.

References


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