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논문제목 인공관절치환술에 있어 가동형 베어링의 경골삽입시 상환골 골절

영문제목 **Bilateral Condyle Fracture of Tibial Insert in Mobile Bearing Total Knee Arthroplasty**

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서론 : Mobile-bearing (MB) total knee arthroplasty (TKA) designs offer the theoretical advantage of increased implant conformity and contact area while minimizing stresses transmitted to the fixation interface. The dual articulation is also designed to reduce polyethylene wear and to subsequently decrease the rate of revision TKA.[1] In recent years, prostheses with newer mobile-bearing designs have been introduced. The E.motion knee (Aesculap, Tuttlingen, Germany) was designed as floating platform prosthesis with large contact areas. The polyethylene insert can glide and rotate multidirectional on the tibial tray, while a protruding hooked spine on the tray controls and prevents dislocation of the bearing. Polyethylene insert breakage in TKA has been reported in literature,[2-9] but only for the tibia post breakage of posterior stabilized (PS) prosthesis. In this report, we describe a case of bilateral posterior condyle breakage occurred in MB polyethylene insert. Arthroscopic examination aided in confirmative diagnosis and one of the broken fragments was found within the Baker's cyst. Entrapment of the broken condyle in the Baker's cyst had been raised as one of a possible mechanism of this bilateral fracture. To the author's knowledge, this is the first report of fracture of MB polyethylene insert. The patient was informed that data concerning his case would be submitted for publication.

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acknowledgment : We report a case of polyethylene insert breakage in a 45-year-old man after 3.5 years of cruciate retaining type mobile bearing total knee arthroplasty (TKA). Both condyles of the polyethylene insert have fractured. The visual assessment done by stereoscopic microscope in the investigation report suggest that the fracture propagation was a result of cyclic loading and that the fracture was from the articular surface as a result of tibio-femoral and anteroposterior shear loading. The flexion-extension gap mismatch and/or the entrapment of the insert in Baker's cyst could have attributed in causing the bilateral condylar insert breakage. After replacement of the broken insert together with Baker's cyst opening repair, the patient obtained complete relief of previous symptoms. To the author's knowledge, this is the first report of insert breakage of mobile bearing TKA.

knee arthroplasty; polyethylene breakage, mobile bearing, Baker's cyst, criciate retaining type
