Loosening of the Patellar Component and Extra-articular and Transcutaneous Migration After TKA

Camilo Partezani Helito, MD; Riccardo Gomes Gobbi, MD; Luis Eduardo Passarelli Tirico, MD; José Ricardo Pecora, MD, PhD; Gilberto Luis Camanho, MD, PhD

Replacement of the patella during total knee arthroplasty (TKA) remains controversial. Despite some attempts to establish guidelines for this procedure, there is still no consensus in the literature. When the patella is replaced, the patient is subjected to certain complications, including loosening of the component. The loosened patellar component most commonly migrates to the intra-articular region of the knee. However, there have been a few reports of migration of the component to the extra-articular region, particularly when release of the lateral retinaculum and osteonecrosis of the patella are involved. The authors report a case of patellar component loosening and extra-articular and transcutaneous migration of the component 9 years after TKA. This report is unique because, during the primary procedure, no lateral release was performed and no patellar necrosis was evident on radiographs. The component was removed in the operating room and the wound cleaned and closed. Because of the probable slow migration of the component, there was no communication between the external environment and the joint at the time of surgery. There were no further complications after the wound healed. This case emphasizes the need for periodic radiographic follow-up after TKA.

The authors are from the Institute of Orthopedics and Traumatology, Hospital das Clínicas, University of São Paulo, São Paulo, Brazil. The authors have no relevant financial relationships to disclose. Correspondence should be addressed to: Camilo Partezani Helito, MD, Institute of Orthopedics and Traumatology, Hospital das Clínicas, University of São Paulo, Rua Dr Ovídio Pires de Campos, 333, Cerqueira Cesar, CEP: 05403-010, São Paulo, Brazil (camilo_helito@yahoo.com.br).

Received: April 23, 2013; Accepted: September 5, 2013; Posted: February 7, 2014.

doi: 10.3928/01477447-20140124-28
Replacement of the patella during total knee arthroplasty (TKA) remains controversial. Despite some attempts to establish guidelines for this procedure, there is still no consensus in the literature.\textsuperscript{1,2} When the patella is replaced, the patient is subjected to certain complications,\textsuperscript{3,4} including loosening of the component.\textsuperscript{5} The loosened patellar component most commonly migrates to the intra-articular region of the knee.\textsuperscript{6} However, there have been a few reports of migration of the component to the extrarticular region,\textsuperscript{7,8} particularly when release of the lateral retinaculum and osteonecrosis of the patella are involved.\textsuperscript{9}

The authors report a case of patellar component loosening and extra-articular and transcutaneous migration of the component 9 years after TKA. This report is unique because, during the primary procedure, no lateral release was performed and no patellar necrosis was evident on radiographs.

**Case Report**

An 83-year-old man who had undergone cemented TKA (Duracon; Stryker Orthopaedics, Mahwah, New Jersey) 9 years earlier presented at a routine annual outpatient consultation with transcutaneous extrusion of the patellar component of the prosthesis (Figure 1). He reported no pain or signs of local infection. The integrity of the knee extensor mechanism was preserved, with active and passive range of motion from 0 to 110. He reported that the component had started to extrude through a small orifice in the skin 3 months earlier. At presentation, half of the component was extruding through an approximately 4-cm long cutaneous fistula. The patient reported that this process was not preceded by a significant joint complaint such as locking or crackling.

Hemogram data were gathered and tests on inflammation performed, revealing values within the normal range. Radiographs performed on hospital admission showed that the tibial and femoral components of the TKA did not have signs of loosening (Figure 2), the remaining part of the patella bone had no signs of fracturing or osteonecrosis, and the patellar component was half inside and half outside the anterior soft tissues of the knee.

The patient was taken to the operating room for removal of the patellar component and surgical exploration of the cutaneous wound. Intraoperatively, it was observed that the patellar component was lodged in the subcutaneous region medially to the patella, without communication with the joint region. Local cleaning was done and the skin closed without performing arthrotomy. There were no complications during this procedure. The patient received broad-spectrum antibiotic therapy intravenously. Once the final results, which were negative, from cultures...
of samples collected during surgery were received, this was stopped.

Two weeks postoperatively, the wound had healed well and the stitches across the incision were removed. The patient maintained the initial knee range of motion, with a complete extensor mechanism and no reports of pain. Evaluations performed 1, 3, and 6 months postoperatively found that the patient was asymptomatic with preserved function.

**DISCUSSION**

The current case involved extra-articular migration of the patellar component a long time after TKA. There had been no lateral release and the patella was complete on radiographs. Thus, the likely etiology was aseptic loosening of the component.

Even after the component had loosened, the patient reported none of the complaints that are common in this situation, such as pain or restriction of knee movements. The event was only noticed when transcutaneous extrusion of the component occurred. The patient only presented because it was time for his annual routine post-arthroplasty consultation. He had not attended these consultations during the preceding 4 years because he had been asymptomatic.

In this case, because of the probable slow migration of the component, there was no communication between the external environment and the joint when surgery was performed to remove the component. Therefore, there was no infection of the arthroplasty. The patellar component alone was removed and the femoral and tibial components were left in place because they showed no signs of loosening.

The current case is unique because the transcutaneous migration evolved asymptotically and occurred with a complete patella, without signs of osteonecrosis. This emphasizes the need for periodic radiographic follow-up after TKA.

**REFERENCES**


