

Clinical observation of recurrent anterior dislocation of the tibial component following total knee arthroplasty

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Proper component positioning in total knee arthroplasty is important for long-term implant survival, while malposition can result in a large number of complications. A clinical instance of malpositioned implant and the solution are described.

Keywords: knee joint, arthroplasty, tibial component, dislocation

A 70-year-old female patient G. was admitted to the hospital of trauma, orthopaedics and joint pathology, I.M. Sechenov First Moscow State Medical University on September 28, 2015 with dislocated tibial component following total knee arthroplasty on the right side performed on May 12, 2011. Primary posterior cruciate ligament-retaining TKA was produced for gonarthrosis and varus deformity of the right knee joint. **Figure 1** shows preoperative radiographs and **Figure 2** demonstrates radiographs after TKA.

Postoperative period was uneventful, the wound healed with primary intention. She slipped on the stairs and got an injury in November 2013 but sought no medical assistance. Since then she used a

walking frame and maintained minimal weight-bearing on the leg. Her family insisted she should be examined and treated for her condition, so she was admitted to the hospital on September 28, 2015. She was unable to put weight-bearing on her right leg and developed evident pain in the knee when tried to bear weight. No vascular and neurologic disorders were observed in the right lower limb. Radiographs showed dislocated tibial component of the right knee implant (**Fig. 3**).

Revision TKA using LCCK was performed on October 14, 2015 following the removal of all the components (**Fig. 4**). No instability of implant components and liner wear were observed intraoperatively.

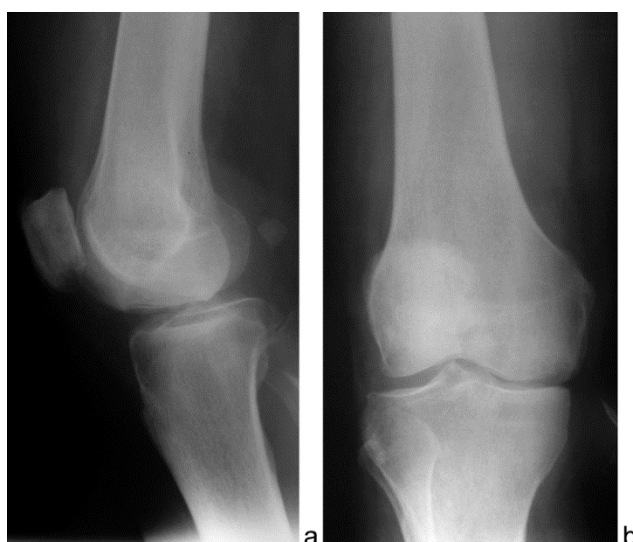


Fig. 1 Preoperative radiographs of the right knee joint of patient G.: a – lateral view, b – AP view

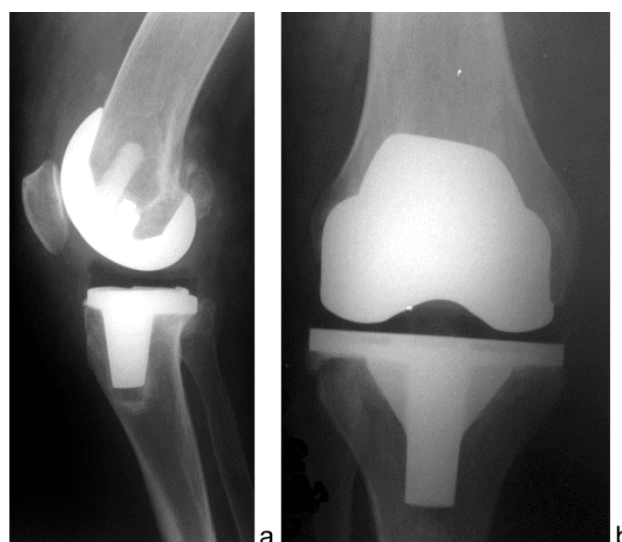


Fig. 2 Radiographs of the right knee joint of patient G. following TKA: a – lateral view, b – AP view



Fig. 3 Radiographs of the right knee of patient G. on admission: a- lateral view, b – AP view



Fig. 4 Radiographs of the right knee of patient G. after revision TKA: a – lateral view, b – AP view

The patient was discharged from the hospital two weeks after the surgery, stitches removed after 14 postoperative days and postoperative wound healed by primary intention. She walked with crutches during two months after the surgery followed by two weeks with a cane.

A six-month follow-up showed her walking with full weight-bearing on the operated limb using no crutches and having no pain. Clinically she demonstrated well aligned limb with a range of motion in the knee joint being 0/0/100 (**Fig. 5**). Radiographs of the right knee joint showed correct components' placement with no signs of instability (**Fig. 6**).

This clinical observation showed a surgical error of

inadequate positioning of the tibial component made during primary total knee arthroplasty on the right side. Greater tilting of the tibial component backwards as assigned by manufacturer can result in increased liner wear and decreased survival of the tibial component. Femoral component could slip off backwards with occasional injury.

Revision surgery in this case involved a lot of tibial bone resection for posterior levelling of the inclination angle. The usage of a constrained condylar knee component with the possibility of applying augments for the tibial component is essential for a good functional result of treatment.



Fig. 5 Photographs of lower limbs of patient G at six-month follow-up: a – postoperative scar; b – front view; c – lateral view; d – flexion of the right knee joint

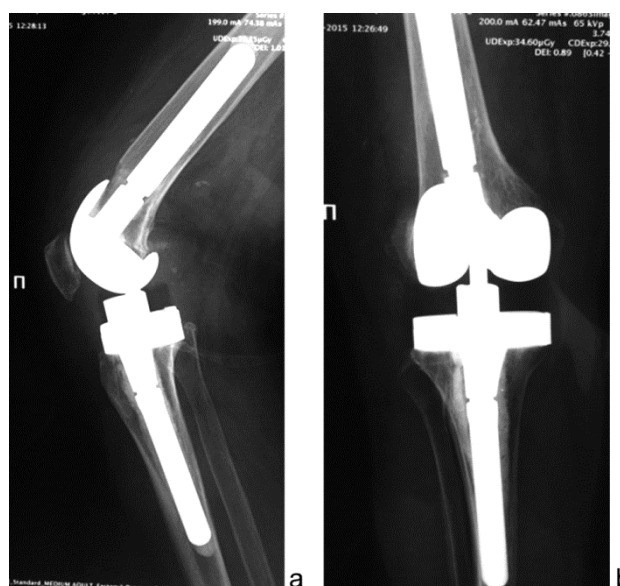


Fig. 6 Radiographs of the right knee joint of patient G. six months following revision TKA: a – lateral view; b – AP view

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