



SPONTANEOUS REDUCTION OF DELAYED DISLOCATED POLYETHYLENE LINER IN MEDIAL UNICOMPARTMENTAL KNEE ARTHROPLASTY

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ABSTRACT We describe a case report of spontaneous reduction of post-traumatic anteriorly dislocated bearing in an Oxford mobile bearing medial unicompartmental knee replacement. Spontaneous reduction is a rare phenomenon and only one such case has been reported previously.

KEYWORDS :

Case report

58 year old female presented with pain in left knee and difficulty in day to day activities since the last 5 months. On examination there was varus alignment, medial joint line tenderness without anteroposterior or medio-lateral laxity. The OXFORD score preoperatively was 28. The decision to do a UKA was taken after thorough investigation. The patient underwent medial unicompartmental knee replacement (Oxford partial knee, Biomet Swindon, UK). The bearing size being 4mm. Intraoperative and postoperative periods were uneventful.

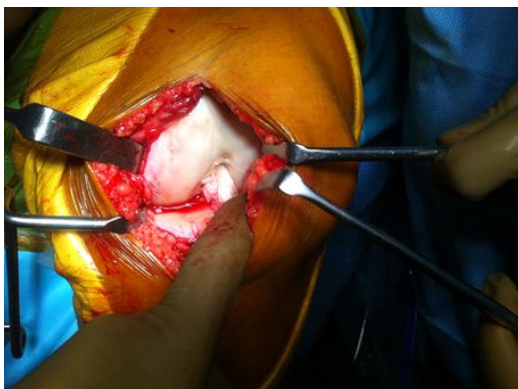


figure 1: intraoperative picture of medial compartment osteoarthritis



figure 2: intraoperative picture following insertion of poly

On the immediate post operative radiograph, component positions

were satisfying based on Oxford microplasty surgical technique booklet. (figure3).



figure 3: immediate post op radiograph of the operated knee.

Post operatively the OXFORD knee score was 46. At 9 months post surgery the patient sustained a trauma to the operated knee and presented with swelling and painful range of motion. Lateral radiograph showed spin out of the bearing along with cement particles into the joint.(figure 4). Exploration and relocation of the bearing with change of bearing with a larger size if required, was planned.

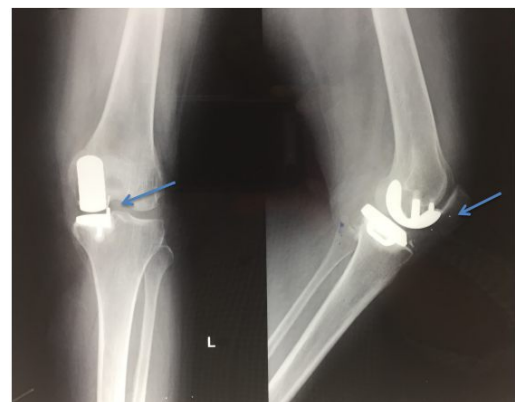


figure 4: showing anterior dislocation of bearing.

As the patient was awaiting surgery in the ward, she felt a sudden give-way sensation during knee movement. Knee radiograph was repeated which showed that the bearing has reduced (figure 5). To check the stability of the spontaneously reduced bearing, the knee was checked under fluoroscopy and it was noted that the bearing is

stable through out the range of motion (figure 6,7,8). Subsequently a CT scan of the knee was also done which further reinforced the fact that the poly is well reduced (figure 9). Incidentally we also found a small radiopaque loose body in the axial view of CT scan which is suspected to be a cement particle (figure 10).

The revision of the bearing was not carried out as the duration since surgery as well as the duration of the dislocated position of the bearing, was short. Since it is compressed and argon sterilized has the best resistance to wear available to date.

Patient has been following up with the department for one year since the spontaneous relocation of bearing surface and has not had any adverse events since then. Currently the symptoms are relieved and the patient enjoys full range of motion without any pain. OXFORD score is 47 (figure 9).



figure 5:showing relocated bearing.



Figure 6,7,8: showing fluoroscopy images of reduced poly

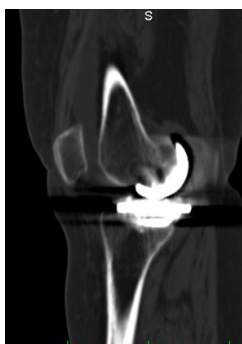


Figure 9: CT image showing reduced poly

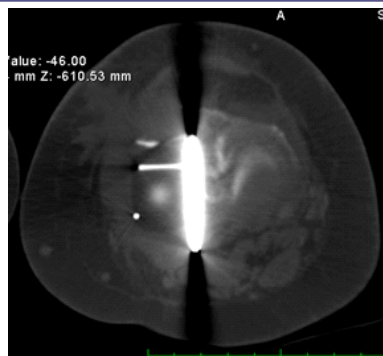


Figure 10: axial image showing a radiopaque loose body (cement particle)



Figure 9: clinical picture at one year follow up

Discussion

Unicompylar knee replacement is a very effective management for medial joint arthritis and is popular among many surgeons as a less invasive and bone preserving surgery. There are many studies to support the improvement in lifestyle and clinical and functional knee scores following UKA^(1,2,3). Oxford unicompartmental knee replacement uses a fully congruent mobile bearing, which is thought to reduce the wear rate⁽⁴⁾. There are several complications reported after performing UKA, such as degenerative changes on the opposite compartment, insufficiency of collaterals, dislocation of bearing surface 0.5% to 10%, aseptic loosening of components^(5,6,7).

Dislocation of the bearing can either be due to trauma, component loosening or spontaneous dislocation. Most of the cases require open reduction of bearing or changing it with a higher size bearing. Changing with a higher size may lead to stable bearing but it comes at the cost of increasing valgus angle and deleterious effect on opposite compartment⁽⁸⁾. Bearing dislocation associated with component loosening requires revision of UKA to TKA. Spontaneous reduction of bearing is a very rare phenomenon and there are anecdote reports in the literature.

The exact mechanism of this hasn't been described. We suspect that the movement of the knee joint, suction effect of the medial compartment during this movement and the congruous nature of the bearing may be the reasons for the spontaneous relocation of the bearing surface. We may be expecting some form of wear on the metal surfaces as the metal surfaces were in contact during the duration of the bearing dislocation.

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