

Correction Of Severe Valgus Deformity Knee Osteoarthritis Using Posterior Stabilized Prosthesis

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INTRODUCTION:

Performing a total knee arthroplasty on a knee with valgus deformity presents challenges. It is encountered in about 10% of cases. Type III valgus deformity is best treated with constrained or hinged total knee arthroplasty. We report a case of a patient with severe valgus deformity of knee whom underwent total knee arthroplasty with posterior stabilized prosthesis.

CASE REPORT:

Madam H, a 73 years old lady, presented with valgus deformity of left knee over past 10 years. Pre-operatively, left knee examination noted valgus deformity 30° with range of motion from 10°-125°, medial collateral ligament (MCL) laxity with tight lateral collateral ligament (LCL). Inflammatory arthritis screening was negative and infective markers were normal prior to op.

She underwent left total knee replacement. Intraoperatively, after tibia and femur bone was cut, it was noted that the bone lost was minimal at tibia and lateral femoral condyle, which can be augmented by bone cement. After the removal of the posterior cruciate ligament (PCL), proceeded with soft tissue release over lateral aspect of knee with an inside-out technique including osteophytes, posterolateral capsule, along with pie-crusting of Iliotibial band. Medially, deep MCL was partially released. Posteriorly, osteophytes were removed and posterior capsule was partially lifted up from distal femur. Total knee arthroplasty was completed after that.

Post-operatively, valgus and fixed flexion deformity was corrected. Patient was able to ambulate and was walking upon discharge. She achieved range of motion 0°-90° with subsequent physiotherapy.

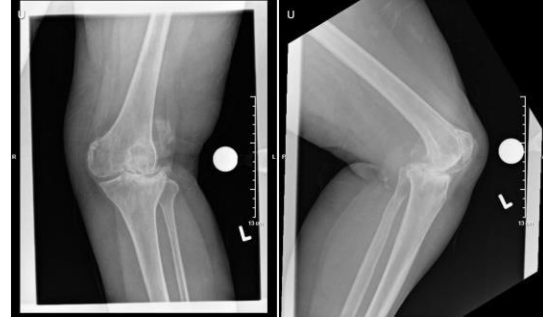


Figure 1: Pre-operative radiograph



Figure 2: Post-operative radiograph.

DISCUSSION:

Restoration of proper bony alignment and soft tissue balancing are the keys for a successful arthroplasty. Posterior stabilized design is the selection of choice because to balance the valgus knee, PCL must be resected. Resection of PCL allows lateralization of the femoral component, optimize patellar tracking and decrease the need for the lateral retinacular release.

CONCLUSION:

With proper soft tissue release and minimal bone cut, a type III valgus knee deformity still able to corrected by a posterior stabilized prosthesis. However, a constraint prosthesis should be readily available if it is impossible to adequately balance the knee.

REFERENCES:

1. Mastering Orthopaedic Techniques – Total Knee Arthroplasty, Rajesh Malhotra, 2010.