

KNEE-SPINE SYNDROME: VALGUS KNEE OSTEOARTHRITIS IN PARKINSON'S DISEASE

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INTRODUCTION:

The changes occurring in knee osteoarthritis often caused by alterations in the spinal loading condition, which further lead to degenerative changes. It is termed as the spine-knee syndrome. The postural deformity in Parkinson's Disease (PD) is due to the loss of postural reflexes and the imbalance of muscle tonus causing trunk tilts to the lateral side. The center of the gravity axis will shift and pass through more lateral points of the knee and result in higher knee load leading to lateral knee osteoarthritis, therefore, resulting in valgus knee deformity.[1]

REPORT:

A 68-year-old lady with underlying PD, diagnosed for more than 10 years presented with complaint of low back pain for 2 years, treated for spinal degenerative disc disease, associated with bilateral knee pain which was more severe at the left knee. The knee pain was rapidly progressing, associated with valgus bilateral knee with flexion deformity within a year. Upon examination, we noticed obvious valgus knee deformity bilaterally on standing with the trunk tilted to the left side. The valgus thrust gait was appreciated more significantly at the left knee. We proposed for left knee total knee arthroplasty (TKA) with semi constrained posterior stabilized (PS) implant using lateral parapatellar approach to facilitate release of lateral structures. We advocated the inside-out technique for lateral structures release to correct the fixed valgus deformity. Post operatively, the valgus deformity the left knee was corrected. Patient was able to fully extend the knee with active range of motion 0°-90°. During 2nd clinic visit at six weeks, patient had no complaint of knee pain, able to walk independently with improved knee motion (0°-110°). Radiograph showed restoration of lower limb mechanical axis.



Figure 1: Valgus knee with fixed flexion deformity. Radiograph; progression of significant valgus angle less than a year.

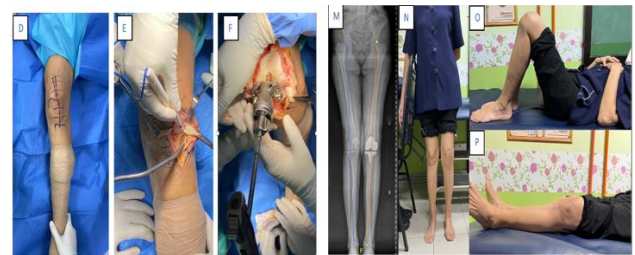


Figure 2: PS TKA with lateral parapatellar approach and inside-out technique lateral release. Radiograph; restoration of mechanical axis

CONCLUSION:

Long standing PD could lead to knee spine syndrome. As a result of truncal and postural imbalance in PD, valgus knee osteoarthritis ensued due to loading at the lateral knee compartment. Advocating lateral parapatellar approach with inside-out technique for TKA in moderate valgus knee secondary to PD offers good clinical outcome and improves patient's quality of life.[2]

REFERENCES:

- [1] R. Tauchi, S. Imagama, A. Muramoto, M. Tsuboi, N. Ishiguro, and Y. Hasegawa, "Influence of spinal imbalance on knee osteoarthritis in community-living elderly adults," 2015.
- [2] A. S. Ranawat, C. S. Ranawat, M. Elkus, V. J. Rasquinha, R. Rossi, and S. Babhulkar, "COPYRIGHT © 2005 BY THE JOURNAL OF BONE AND JOINT SURGERY, INCORPORATED Total Knee Arthroplasty for Severe Valgus Deformity Surgical Technique," 2004.