

Total Knee Replacement with Autogenous Augmentation in End Stage Arthritis

Manjunath G Pai^a, V Sunil^a

a. Department of Orthopedics and Traumatology, ACME, Pariyaram*

ABSTRACT

Published on 28th March 2014

Degenerative arthritis is the commonest arthritis in our region. Due to socioeconomic reasons many of the patients with arthritis present in the end stage when total knee replacement is the only option. This case represents a similar pattern of end stage arthritis and cost effective way of managing with total knee replacement with autogenous augmentation.

Keywords: Total Knee Replacement, Bone, Graft Semi constrained Prosthesis

*See End Note for complete author details

INTRODUCTION

Degenerative arthritis especially of the knee is far by commonest arthritis in our region. In India the incidence of osteoarthritis of the knee is 22-39% and each year the number rises in an astronomical fashion as the life span increases.^{1,2} Medications, rehabilitative programmes, splints and adaptation to cope with activities of daily living form the bulk of conservative measures. Many of the times the patients who present to the orthopedic surgeon are in an advanced stage of OA Knee. In most of these situations surgical intervention is the only solution.³ This case represents end stage arthritis with dislocation of the knee with a large bony defect with ligamentous laxity. Unlike the standard way of using a constrained Knee in such cases, we have used a semi constrained knee with bone graft to make up for the defect, which is cost effective as well as gives better mobility.

CASE REPORT

60 yr old patient presented to the Orthopedic outpatient department with complaints of B/L knee pain Lt>Rt. for the past 17 yrs. The patient was bedridden. Radiographs revealed severe OA knee (Lt>>Rt) as illustrated in the Figure 1.

Total knee replacement was done for this patient in 2 sittings considering her general condition. While in the Lt knee there was gross tibial defect, in the Lt knee there was femoral defect. In addition the bone was very osteoporotic. A semi-constrained knee



Figure 1. End Stage Osteoarthritis Bilateral Knee

prosthesis (INDUS KNEE, orthovasive, Pune) was used. In the Lt knee the tibial defect was filled with bone graft, which was fixed with two 3.5mm cortical screws and reinforced with cement. For the Rt knee, the femoral bony defect was filled with cylindrical bone graft and reinforced with cement. Further for both knees ligamentous balancing was done in the standard fashion. Post op period was uneventful. Patient was mobilized after the second surgery. X- rays revealed restoration of the tibiofemoral angle as well as good position of the prosthesis with adequate cementation as illustrated in figure 2.

Corresponding Author:

Dr. Manjunath G Pai, MBBS, MS (Ortho), Associate Professor, Department of Orthopedics and Traumatology, ACME, Pariyaram.
E-mail: imaksb@yahoo.co.in



Figure 2. Bilateral Total Knee Prosthesis in situ

DISCUSSION

In end stage arthritis, total knee replacement is the only option. Various prosthesis have been designed for the same Chiu et al⁴ and Newman et al⁵ in their studies found that that constrained prosthesis are the best way to contain such type of knees. However Engh ET al⁶ in his study found that ligamentous balancing may help in restoring alignment. In severe deformity with bone loss as in this case, this alone would not restore the alignment. Autogenous bone graft with reinforcement with cement is an excellent alternative to the constrained prosthesis and artificial augmentation including metal wedges.

END NOTE

Author Information

1. Dr. Manjunath G Pai, MBBS, MS (Ortho), Associate Professor, Department of Orthopedics and Traumatology, ACME, Pariyaram

2. Dr. V Sunil, Head of the Department
Department of Orthopaedics and Traumatology,
ACME, Pariyaram

Conflict of Interest: None declared

Cite this article as: Manjunath G Pai, V Sunil. Total Knee Replacement with Autogenous Augmentation in End Stage Arthritis. Kerala Medical Journal. 2014 Mar 25;7(1):25-26

REFERENCES

1. Chopra A, Patil J, Bilampelly V. The Bhigwan (India) COPCORD: Methodology and first information report, APLAR. J Rheumatol 1997; 1:145-54.
2. Chopra A, Patil J, Billempelly V, Relwani J, Tandle HS, WHO-ILAR COPCORD Study. WHO International League of Associations from Rheumatology Community Oriented Program from Control of Rheumatic Diseases. Prevalence of rheumatic diseases in a rural population in western India: a WHO-ILAR COPCORD Study. J Assoc Physicians India. 2001 Feb; 49:240-6.
3. K Satku, V P Kumar: Surgical Management Of Arthritis: Singapore Medical Journal 11991;Vol32:445-447.
4. Cheung KW, Yung SHP, Chiu KH. Primary total knee replacement using constrained condylar prosthesis in knee with severe varus deformity Primary CCK in severe varus knee, Hong Kong Journal of Orthopaedic Surgery 2002;6(2):65-68.
5. Karachalios T, Sarangi PP, Newman JH. Severe varus and valgus deformities treated by total knee arthroplasty. J Bone Joint Surg Br. 1994 Nov; 76(6):938-42.
6. Engh GA. The difficult knee: severe varus and valgus. Clin Orthop Relat Res. 2003 Nov; (416):58-63.