

## Case Report

# Total Knee Arthroplasty Followed – Up 8 Years

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### Abstract:

A female 62 years old, with late osteoarthritis of left knee was performed a Total Knee Arthroplasty (TKA). Cemented femoral and tibial components; removal of patellar osteophytes. Knee valgus  $3^{\circ}$ , sacrifice PCL (Posterior Cruciate Ligament). First 3-month follow-up: no infection, no dislocation, range of motion:  $0/0/90^{\circ}$ , walk no pain, knee score: 90/100. 8-year follow-up: walk, slight run no pain; range of motion:  $0/0/100^{\circ}$ ; knee score evaluated excellent: 95/100. The functional final outcome of this case is a superiority illustration of Total Knee Arthroplasty for the osteoarthritis, especially in the late stage.

**Keywords:** Total Knee Arthroplasty (TKA), Osteoarthritis, Replacement Surgery, Functional Final Outcome, Follow-up, Knee Score.

### Introduction

Total Knee Arthroplasty (TKA) presumes the most effective solution for osteoarthritis especially at the late stage when the primary anatomy of femoral condyles and the tibial plateaus are damaged to an extent of irreversibility. Grossly, in osteoarthritic disorders, knee structures such as cartilages, subchondral bones, menisci, ligaments, etc... are so destructive. Clinically, pain is the main symptom which affects the life quality of patient. In addition, the legs are likely in deformity which makes patient walk difficultly. Knee range of motion is also limited. Synovitis in variety of levels recognized in majority of cases. Knee functions evolve more and more disable. The treatment of knee osteoarthritis may be started by as conservative measures as possible like NSAIDs and braces to support the knee if necessary. Physical therapies are indicated at the maximum scales. Surgeries for correction of leg axis like High Tibial Osteotomy (HTO)

Should be performed in the first line of treatment. Bodyweight of patient must be in control. When all pharmaceutical measures and physical therapies cannot control the osteoarthritic evolution, Replacement Surgery presumes subsequently indicated. Unicompartmental Knee Arthroplasty is useful for few patients, but Total Knee Arthroplasty is universal for majority of cases.

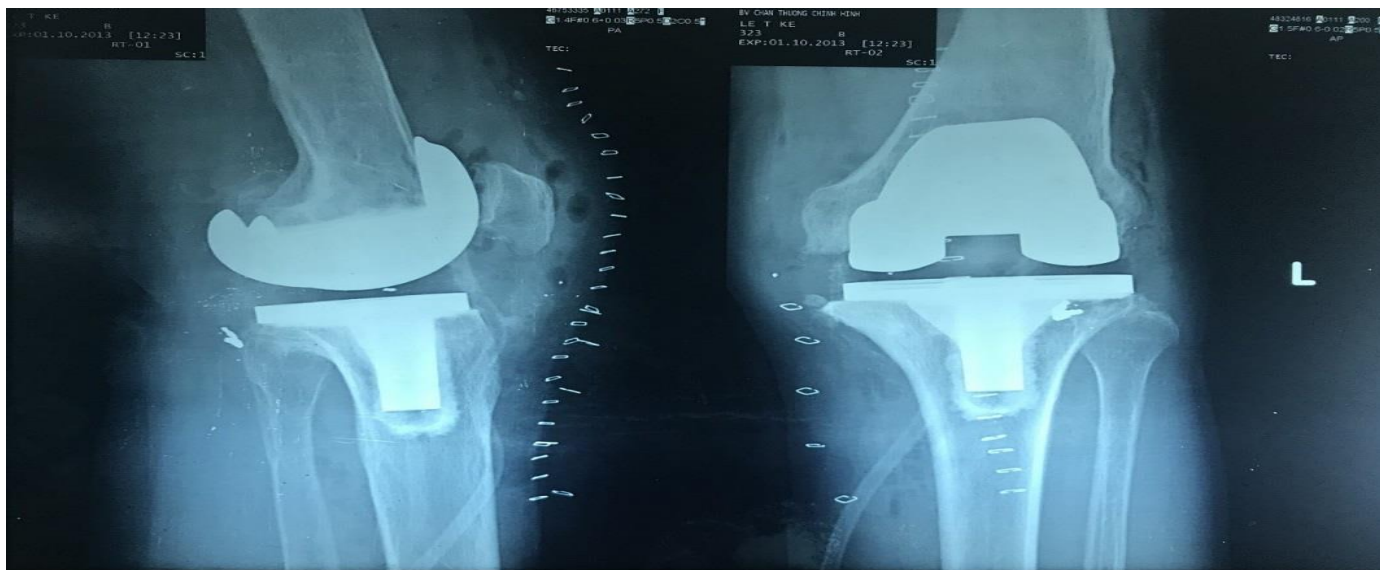
### Case report

Patient is a female 62 years old; chief complaint is pain of left knee which didn't relieve with NSAIDs treatment for longtimes. X-rays showed osteoarthritis of the left knee with severe damage of femoral condyles and tibial plateaus. Explosive debris were seen by the event of wound 40 years ago. Knee varus  $20^{\circ}$



Figure 1: Osteoarthritis of the left knee, severe damage of femoral condyles and tibial plateaus. Knee varus  $20^{\circ}$ . Explosive debris.

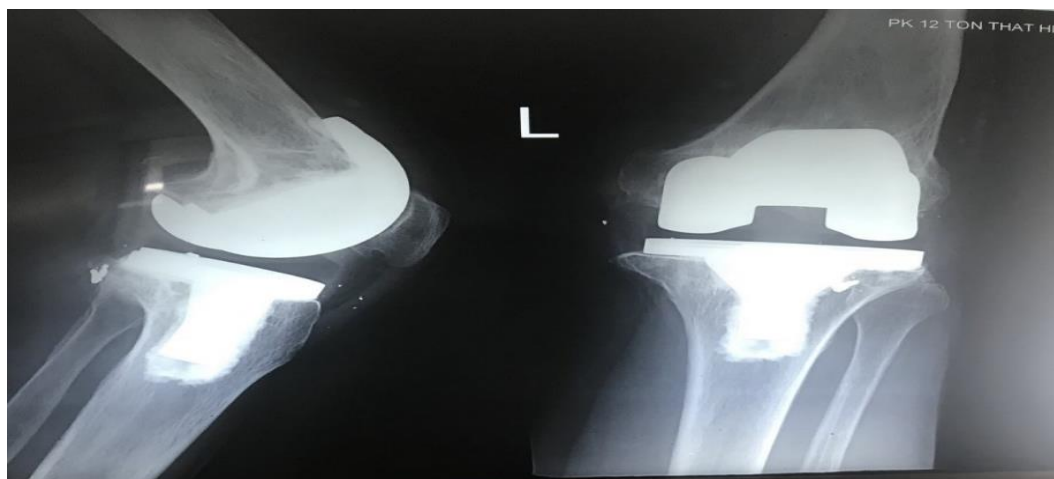
Patient was performed a Total Knee Arthroplasty in October 01, 2013. Cemented femoral and tibial component. Removal of patellar osteophytes, no resurfacing. Knee valgus  $3^{\circ}$ . PCL (Posterior Cruciate Ligament) sacrificing. Discharged from hospital at 7<sup>th</sup> postoperative day.



**Figure 2: Postoperative X-rays of left knee with TKA. Cemented femoral and tibial component; removal of patellar osteophytes, not resurfacing.  $3^{\circ}$  valgus. No dislocation.**

First 3-month follow-up: no infection, no dislocation, knee range of motion: 0/0/  $90^{\circ}$ . walk no pain. Knee score: 90/100.

8-year follow-up: walk and slight run no pain. Range of motion: 0/0/ $100^{\circ}$ . Knee score: 95/100, excellent.



**Figure 3: X-rays of left knee with TKA at 8-year follow-up. Prostheses in right place. No radiolucency. No dislocation. Cement integrated well to bone and prostheses.**





**Figure 4: Patient with TKA at 8-year follow-up. Left knee: full extension, flexion 100<sup>0</sup>, straight axis, walk and slight run no pain, good scar of skin incision.**

## Discussion

In the present time, a senior orthopaedic surgeon can perform 3-5 or more Total Knee Arthroplasties (TKAs) in an operating day [1,4,5]. In our institution (Saigon ITO Hospital HoChiMinh City, Vietnam), there are usually 2-3 cases (TKAs) a week. However, a TKA patient with 8 - year followed- up is not many and this patient is a good opportunity to study [4].

Regarding the PCL (Posterior Cruciate Ligament) in surgical technique, we sacrificed, by the reason of late period of osteoarthritis in which almost all ligamentous structures are degenerative, PCL is no longer the role of posterior stabilisation [1,6].

We cemented femoral and tibial components as the standard technique. After 8 years, the cements are not broken or degraded, whereas good integration into bone and prostheses. No radiolucency is seen. Cementless TKA, we have no experience [3].

For the patella, we prefer removal of osteophytes, like this patient, to resurfacing which is merely indicated in case cartilage so destructive [7].

Distal femoral cut 3<sup>0</sup> valgus was chosen (not 6<sup>0</sup> as standard one) because of severe preoperative varus knee 20<sup>0</sup>.

The functional final outcome is very good ( knee score evaluated 95/100).This case is a superiority illustration of Total Knee Arthroplasty for knee osteoarthritis in late stage in which the anatomical primary structures were irreversibly destructive [2,4].

## Conclusion


With the correct indication (regarding the pathology and the stage). Total Knee Arthroplasty presumes the treatment of choice for osteoarthritis especially in the late stage in which the cartilage of femoral condyles and of the tibial plateaus were eroded; subchondral bones were exposed; the soft tissue like synovium, capsules, ligaments...were degenerative to an

extent of unrecovery, impacting seriously the patient quality of life.

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