

MY PROSTHETIC KNEE IS BECOMING UNSTABLE

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INTRODUCTION

Total knee arthroplasty (TKA) has becoming one of most common surgical procedure with good outcome, pain reduction and vastly improve lifestyle of ageing population today with over 10,000 cases done yearly in Malaysia. The uptrend of this surgical procedure results in increasing complications and peri-prosthetic fracture is estimated to range between 0.3 to 2.5% of TKA complications.

CASE REPORT

65-year-old lady presented with 2 weeks history of insidious right knee pain, swelling and instability 5 years post total knee replacement. Examination noted patient was able to weight bear with walking frame in pain with varus/valgus laxity. Range of movement of the right knee is 0 – 135 degrees with no evidence of infection. Radiograph noted loosening and peri-prosthetic fracture of the right tibia component associated with fibula neck fracture with no evidence of biochemistry markers of infection.

Radiographs



Figure 1: Right knee radiographs

DISCUSSION

In literature, distal femur fracture is more common than proximal tibia thus historically given less attention in term of classification and management. Periprosthetic fracture commonly occur 2-4 years postoperative which corresponds to this patient and are more common in revision surgery instead of primary cases.

Common risk factors such as age, female sex, osteolysis and osteoporosis are the main contributory factors to this condition after ruling out infection and tumour. Trauma or fall are also common in this age group.

Surgical factors include cementless fixation, malrotation of tibial, history of high tibial osteotomy, bone defect and implant design. Tibial tray design flaws over a decade ago post higher risk of implant fracture at transition zone between the tibial stem/keel and the tibial baseplate.

Varus implantation and external rotation are attributed to excessive asymmetrical loading to tibial components which can cause stress fracture.

Necrotic bone of the tibial plateau is reported to cause fracture in some cases in which revision surgery will require burring of bone will bleeding edges and augmentation to regain stability.

CONCLUSION

Early detection of impending stress fracture post TKA is important to advocate early intervention and avoid complicated revision surgery. Felix/ Mayo Classification is useful in management of periprosthetic tibial fracture post TKA.

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