

Chapter 5

TWO STAGE RECONSTRUCTION OF THE INFECTED TOTAL KNEE ARTHROPLASTY

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INTRODUCTION

Total knee arthroplasty is one of the most common surgery among orthopaedic procedures. High patient satisfaction can be obtained with knee arthroplasty. Early failure is a serious problem. In recent years; periprosthetic joint infection (PJI) is the common cause of failure even though advances in prevention, diagnosis and treatment. 16.8% of all knee revisions were caused by PJI (Bozic et al, 2006). PJI causes longer hospital stays with higher costs (Lavernia, Lee & Hernandez, 2006). The treatment of PJI is completely different from aseptic causes of failure, so the diagnosis of infection be ruled out or established before surgery (Springer, 2015). The diagnosis of PJI is difficult, and approach to a patient with suspected PJI after total knee arthroplasty is more complex. Although, diagnostic criterias of the Musculoskeletal Infection Society are helpful for appropriate processes (Parvizi et al, 2011). These are; a sinus tract communicates with the prosthesis, a pathogen is identified on culture of 2 or more separate samples of periprosthetic tissue or fluid, and three of the five criterias (Serum erithrocyte sedimentation rate and serum C- reactive protein concentration are elevated; synovial white blood cell count is elevated; synovial neutrophil percentage is elevated; a microorganism is isolated in 1 periprosthetic tissue or fluid culture; more than 5 neutrophil per high power field in 5 high power fields are detected on histological analysis of periprosthetic tissue at 400xmagnification) (Parvizi et al, 2011). Treatment is not possible only by antibiotics in most cases, but also surgical procedures such as irrigation and debridment, one stage revision, two stage

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and two stage revisions (Kunutsor et al, 2016). In a systematic review, re-infection rate was 8.8% in two stage revision, and 7.6 in one stage revision (Kunutsor et al, 2016). Culture negative and methicillin resistant organisms increased the risk of failure (Mortazavi et al, 2011).

CONCLUSION

Two stage revision is the gold standard for the infected total knee arthroplasty. Articulating spacers are more preferred in recent years. Failure rates are still high. Further studies are necessary for timing of second stage, and for the detection of the treatment of infection.

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