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Double Trouble; Metachronous Prosthetic Joint Infection of Hip and Knee

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INTRODUCTION:

Prosthetic joint infection (PJI) ranges from subclinical, non-specific complaints of the affected joint to a full-blown sepsis and associated with high morbidity. Multiple arthroplasties are at risk of having simultaneous PJI (synchronous) or sequentially (metachronous). These provides a dilemma in definitive treatment. This is a report of a case of metachronous PJI of an ipsilateral total hip & knee arthroplasty.

REPORT:

A 52 year old lady presented with right knee pain for a total of two years in duration, has undergone Total knee replacement (TKR) done after failure of conservative treatment. She later presented with right hip discomfort and diagnosed as primary hip osteoarthritis. Right total hip replacement (THR) was performed 2 years after her right TKR. The THR was uneventful perioperatively.

She developed gradual discomfort over her right knee, and subsequently the right hip 6 months after the surgery. There were no clinical, serological or aspirated evidence of infection.

Radiograph showed loosening of the femoral stem after 1 year and was diagnosed with PJI of the right hip. Two-stage revision were planned, with the first stage revision performed a Kuntscher nail with proximal antibiotic cement as spacer. The intraoperative culture was negative. The discomfort over the hip improved post-operatively, but the discomfort from her knee persisted. Arthrotomy of the right knee performed and reveals unhealthy bone-implant interface. First stage revision performed over the knee. Intra-operative culture was also negative. The knee pain resolved post operatively. Second stage revision of the hip was done 6 months later, followed by the knee a year after. She is currently 1 year post total revision pain free.

Figure 1: Plain radiographs of post first revision surgery of right hip and knee.

DISCUSSION:

Metachronous infection is defined as an infection spread from one arthroplasty to a second separate arthroplasty with 18% of estimated risk of hematogenous spread [1]. The metachronous nature of PJI was established, as the condition of an 'unhappy knee' with the development of PJI over the hip, supported the possibility of an established, low grade PJI of the knee, and a sequential infection of the hip without evidence of infection in the blood parameters and joint aspirations. A study by Thiesen et al in 2019 showed the incidence of synchronous PJI of a cohort of 644 patients was as high as 4%, with 12 patients (2%) did not demonstrate any clinical signs in any prosthetic joints other than the joint that was originally suspicious at the time of first clinical contact[2].

CONCLUSION:

Prosthetic joint infections are becoming more common with many risk factors have been found, and while measures were taken to diagnose the issue, they must be improved over time in order to lower morbidity. Although it is uncommon, infections that impact several arthroplasty joints have higher morbidities.

REFERENCES:

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