2.3. TREATMENT: RESEARCH CAVEATS

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QUESTION 1: Should the management of periprosthetic joint infection (PJI) involving an oncologic endoprosthesis differ from that of conventional joint replacement prostheses?

RECOMMENDATION: No. The management of PJI involving an oncologic endoprosthesis is similar to that of conventional joint replacement prosthesis.

LEVEL OF EVIDENCE: Limited

DELEGATE VOTE: Agree: 100%, Disagree: 0%, Abstain: 0% (Unanimous, Strongest Consensus)

RATIONALE

Deep infection of primary total joint arthroplasty (TJA) is a catastrophic complication. However, the infection rate is relatively low [1]. Tumor endoprosthesis are essentially larger implants similar to those used in total joint replacements, although the type of surgery and the risk factors related to the type of patient differ significantly [2,3]. Therefore, a deep infection with these types of implants drastically worsens the prognosis of the affected limb and significantly increases the risk of amputation compared to conventional prosthetic arthroplasties [2,3].

Despite these differences in the rate of complications between primary arthroplasties and endoprostheses, the management of postoperative infections is similar. There is a general consensus that infections are divided into either early or late infections, according to the time of diagnosis [4–9].

Despite the large amount of literature analyzing PJIs, there are no comparative studies between management and outcomes nor between primary prostheses and endoprosthesis. There are only a limited number of retrospective studies focused on the outcomes of periprosthetic infections in endoprostheses [10–13]. Therefore, the management of infections in endoprostheses is based on protocols used in primary prostheses. A new strategy that seems to be improving the results at the time of endoprostheses re-implant is silver-coated endoprostheses. Wafa et al. [14] suggests in a retrospective case-control study that the overall success rates in controlling infection by two-stage revision in patients treated with silver-coated endoprosthesis was 85%, compared to uncoated tumor prostheses ($p = 0.05$, Chi-square test). The Agluna-treated endoprostheses were associated with a lower rate of early periprosthetic infection. In addition, these silver-treated implants were particularly useful in two-stage revisions for infection and in those patients with incidental positive cultures at the time of implantation of the prosthesis. Finally, they conclude that debridement with antibiotic treatment and retention of the implant appeared to be more successful with silver-coated implants.

There is no consensus in the management of an infected endoprosthesis given the limited data. The current recommendation is based on treatment of infected primary arthroplasties.

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