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Background:

The most severe complication in tumor arthroplasty is periprosthetic wound infection. Usually 2 stage exchange is necessary. Retaining the implant by open debridement and irrigation could preserve bone stock harmed by exchange procedures and shorten the treatment time.

Question:

Is it possible to treat periprosthetic infection of tumor endoprosthesis of the lower extremities by Negative pressure wound therapy and instillation ?

Patients and Methods:

23 patients with proven periprosthetic infection of the lower extremities after resection of a malignant bone tumor were treated with a combination of NPWT and instillation using local antiseptics Polyhexanide as solution. 14 endoprosthesis were located around the knee. Most frequent germ was staphylococcus epidermidis. Infection was defined as early in 3 and chronic in 20 patients. Endpoint was implant retention and follow up was in average 17 months.

Results:

Treatment of the periprosthetic using NPWT and instillation was used for 14 days on average. All implants in the 3 early infected cases could be retained. Success rate in the 20 chronic infected implants was 60%. 8 implants had to be removed because of ongoing or recurrent infection. Amputation rate was 26% with a higher risk after proximal tibial resection.

Conclusions:

In early infections implant retention using NPWT and instillation shows very good results. It can also be used in chronic infections with a higher rate of a recurrent infection.