Burkhard Lehner, Rudi Bitsch

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 bay 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 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.