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Osteomyelitis- Modern diagnostical and therapeutical approaches: The surgeons point of view

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Abstract

Modern osteomyelitis therapy is based on three principles:

- Surgical eradication of the infection focus
- Application of antibiotics
- Adjuvant therapy (f.e. application of tracer elements)

The basic element of these principles is the surgical treatment. Similar to oncologic surgery the complete resection of all infected tissue (bone and soft tissue) is essential. Because of that the extent of the infection site has to be estimated pre -, peri - and especially postoperatively. The more precise we are able to estimate this extent, the more precise we are able to operate and follow the need to resect 100% of the infected tissue. Preoperative radiologic features (x-ray, CT, MRI, PET-CT, PET-MRI) help as well as the perioperative macroscopic aspect of the resected tissue. Nevertheless till today we are not able to draw a clear margin on the histopathological extent of those infections in order to answer the following questions:

- Does the macroscopic visible extent of the infected area meet the histopathologic boundaries?
- Do we have to resect the infected tissue with some safety distance?
- Is it possible to define this safety distance in terms of the bone resection?
- Is it possible to define this safety distance in terms of the soft tissue resection?
- Do we have to modify the surgical technique (f.e. according to the oncological "compartment resection")?

In this lecture the current imaging diagnostics and surgical techniques for osteomyelitis therapy will be illustrated as well as their above mentioned limits.

Biography

Andreas Heinrich Hugo Tiemann has completed his medical studies at the age of 26 years at the Hamburg University School of Medicine, Germany. He is specialized in the field of Septic and Reconstructive Surgery for many years and is the Director of the Department for Septic and Reconstructive Surgery in one of the nine Employers Liability Insurance Association clinics in Germany. He has published more than 30 papers in reputed journals and is serving as an editorial board member of repute.