



MEETING ABSTRACT

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Using daptomycin for the treatment of surgical site infections in a single neurosurgical unit - preliminary experience

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Background

The increasing frequency of methicillin-resistant *Staphylococcus aureus* as a cause of surgical site infections, and decreased susceptibility to vancomycin, highlight the need for alternative therapies. Daptomycin is a novel lipopeptide antibiotic used in the treatment of certain infections caused by Gram-positive organisms. It is a naturally-occurring compound found in the soil saprotroph *Streptomyces roseosporus*. Its distinct mechanism of action means that it may be useful in treating infections caused by multi-resistant bacteria. Daptomycin is approved for the treatment of skin and skin-structure infections (4 mg/kg), and *Staphylococcus aureus* bacteremia, including right-sided endocarditis (6 mg/kg).

Aim

To evaluate the safety and efficacy of daptomycin when administered for a variety of gram-positive infections in a single neurosurgical unit.

Materials and methods

During the last three years we use daptomycin (2006-2007-2008) in 64 cases. For the purpose of this study, the safety and efficacy of daptomycin were evaluated in patients who received doses of 4 mg/kg or higher. Prior antibiotic therapy was given to 21,8% of patients (14).

Results

The median final daptomycin dose was 5 mg/kg. The median duration of daptomycin therapy was 15 days. Daptomycin was well tolerated in patients with gram-positive infections. The most common infections were

skin and skin-structure. The most common pathogens were *S. aureus*.

1. A large number of novel antibacterial agents have been or are being developed for the treatment of complicated skin and soft tissue infections -cSSTIs -Daptomycin is one of them and it is available for clinical use. 2. Daptomycin was well tolerated in patients with gram-positive infections. 3. Further prospective and comparative studies of daptomycin are warranted.

Conclusions

We have always to remember that the most important parameters that appear to determine the clinical effectiveness of an antibiotic for cSSTIs include the severity of the illness, patient co-morbidities, whether the patient receives appropriate antimicrobial therapy at the onset of illness and if this should be a combination or single-agent approach to cover a broad range of likely causative organisms.

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References

1. Chamberlain RS, Culshaw DL, Donovan BJ, Lamp KC: **Daptomycin for the treatment of surgical site infections.** *Surgery* 2009, **146**(2):316-24.
2. Fenton C, Keating GM, Curran MP: **Daptomycin.** *Drugs* 2004, **64**(4):445-55, discussion 457-8.
3. Moise PA, Hershberger E, Amodio-Groton MI, Lamp KC: **Safety and clinical outcomes when utilizing daptomycin therapy in a neurosurgical department.** *Ann Pharmacother* 2009, **43**(7):1211-9.
4. Nathwani D: **New antibiotics for the management of complicated skin and soft tissue infections: are they any better?** *Int J Antimicrob Agents* 2009, **34**(Suppl 1):S24-9.

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5. Quetglas EG, San Julian M, Garcia Tutor E, Vazquez B, Lucena F, Landecho M, Azanza JR: **A long-term retrospective review of 5 cases using daptomycin for prosthetic device infections after surgery.** *Int J Artif Organs* 2009, **32**(5):299-307.
6. Sorlozano A, Gutiérrez J, Roman J, Liebana J, Piedrola G: **Activity of daptomycin against multiresistant clinical isolates of *Staphylococcus aureus* and *Streptococcus agalactiae*.** *Microb Drug Resist* 2009, **15**(2):125-7.

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