Treatment Of Acute Osteomyelitis With Once Weekly Oritavancin

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Background

• Acute osteomyelitis in adults remains a clinical challenge with high morbidity and lack of general treatment guidelines except for vertebrectomy osteomyelitis.
• Parenteral therapy has traditionally been standard of care, often with multiple daily antibiotic doses given for at least 4 weeks.
• Several case reports have described the use of multiple dose regimens with oritavancin for a variety of complex infections, including osteomyelitis, with promising results.

Osteomyelitis

• Semisynthetic lipoglycopeptide antibiotic approved for the treatment of acute bacterial skin and skin structure infections
• Approved as a single 1200 mg dose for the treatment of acute adult patients with acute bacterial skin and skin structure infections
• Key covered pathogens: Methicillin resistant Staphylococcus aureus (MRSA), Enterococcus, streptococci spp.
• Rapid bacterial activity
• Cell wall synthesis inhibition
• Prevents patients from needing a permanently inserted central catheter (PICC) or a mid-line catheter, which in turn prevents catheter-associated bacteria
• The long terminal half-life, supports once-weekly administration with logistical advantages over traditional therapies.

Oritavancin

• Clinical outcome determinations at ETE were based on the following:
  • Clinical success based on resolution of symptoms or improvement in symptoms and no further need for treatment; or
  • Clinical failure based on lack of improvement in symptoms and need for use of additional antibiotics or loss to follow up at ETE. Clinical success and failure at PTE were determined during the 3 and 6 month follow up timeframe.
• Clinical failure was defined as:
  • Use of Gram-positive antibiotics during the PTE period;
  • Admission to the hospital for baseline osteomyelitis; or
  • Loss to follow up. All other patients were considered clinical success.
• Safety data, including discontinuation of oritavancin due to safety concerns, infusion events, and other adverse events as noted by patient telephone follow up at 7 to 10 days after the end of the last dose (ETE) and at 3 months and 6 months post treatment (PTE) using both retrospective electronic medical records assessment and via patient telephone follow up as conducted by an infectious disease trained pharmacist using an approved questionnaire and approved data collection form, see Figure 1.

Objective

• To characterize the use and safety of oritavancin in patients with acute osteomyelitis in real-world clinical settings.

Primary Outcome:

To evaluate the clinical success of oritavancin for acute osteomyelitis in a multi-dose regimen scheme over 6 months.

Methods

• Baseline Characteristics
  • Male 66 (49.3)
  • Age, mean years (range) 60 (19 - 97)
  • Weight, kg, range, SD 78 (38 - 164), 23.8
  • BMI (kg/m2), mean, (range), SD 27 (15.8 - 48.4), 6.7
  • Baseline MRI 134 (100)
  • Baseline CRP 134 (100)
  • Baseline ESR 132 (98.5)
  • Previous antibiotic therapy 18 (13.4)
  • Baseline bacteremia (MRSA) 9 (6.7)
  • Debridement of bone or joint 121/134 (90.3)
  • Positive wound, bone, joint culture 119/134 (88.8)
  • Culture (+) (wound, joint, deep wound) MRSA 92/128 with cultures drawn (71.9)
  • Prophylactic dose post initial 1200mg 20/24 (88.3)
  • Prophylactic device infection with osteomyelitis 20/24 (88.3)
  • Baseline history of heart failure 21/25 (84.0)
  • Baseline history of diabetes 43/51 (84.3)
  • Baseline history of malignancy or immunosuppression 11/12 (91.7)

• Baseline Micro
  • Culture and Pathogen by Unique Patient
    • MRSA 92
    • MSSA 25
    • Staphylococcus aureus, monomicrobial 119/134 (88.8)
    • Positive cultures with ≥ 3 Gram-positive result 119/134 (88.8)
    • MRSA + other GP pathogen 9
    • MSSA + other GP pathogen 9
    • Vancomycin resistant enterococci (VRE) 3
    • Vancocycin-intermediate 5 - aureus (VISA) 2
    • PTE with depleton CRP > 3 mg/l 2

• Overall Clinical response at Timepoints
  • Overall Clinical cure at ETE 118/134 (88.1)
  • Overall Clinical cure at PTE 109/130 (83.8)

Results

• Overall Clinical success according to dosing
  • Clinical cure at ETE 107/118 (90.7)
  • Clinical cure at PTE 107/118 (90.7)

Conclusion

• Based on this study, multiple weekly doses of oritavancin is a safe and effective option for the treatment of adult patients with acute osteomyelitis.

Disclosure

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.