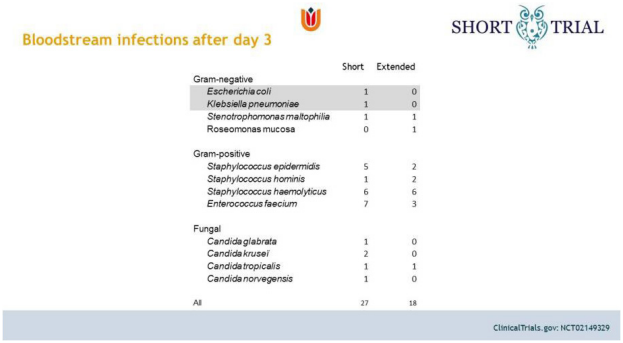
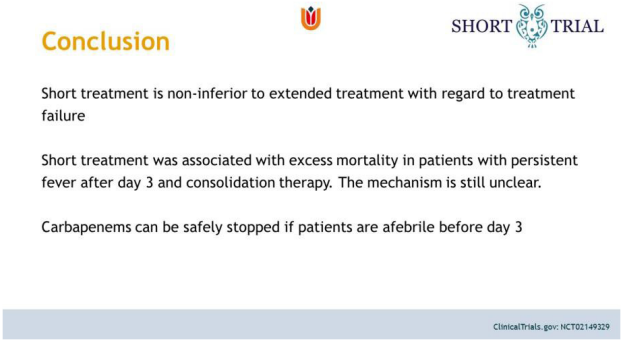
Bloodstream infections after day 3



Conclusion: Short treatment with a carbapenem in neutropenic patients with fever was noninferior to extended treatment with regard to treatment failure.

Conclusion Summary



Disclosures: **All Authors**: No reported disclosures

314. A Retrospective Review of Dalbavancin Utilization at an Academic Medical Center

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Session: P-10. Bone and Joint

Background: Dalbavancin is a novel long-acting lipoglycopeptide with increasing utilization for management of bone and joint infections as a two-dose regimen. The purpose of this study is to describe the patient characteristics, evaluate clinical outcomes, and calculate inpatient hospital days saved with use of dalbavancin as outpatient parenteral antimicrobial therapy (OPAT).

Methods: A retrospective review of patients treated with dalbavancin at University Hospital was conducted from Aug 2019- March 2020. Patients ≥ 17 yrs of age with plan to receive at least 1 dose of dalbavancin were included. All patients were initially evaluated by, and had clinic follow up with, an infectious disease physician. Information on baseline demographics, infection characteristics, treatments, and outcomes were recorded from the EMR.

Results: 42 patients met the study criteria. 62% were males with a median age of 49 yrs. 67% of patients had diabetes and 12% had a documented history of intravenous drug use. The most common indication was osteomyelitis (71%). *S. aureus* was the most commonly isolated organism in monomicrobial infections (MRSA 24%, MSSA 9.5%) and often a component of polymicrobial infections (33%). 90.5% of patients were adherent to their prescribed therapy; 1 patient missed both doses and 3 only received 1 of their recommended doses. Adverse effects were mild and noted in only 4 patients. 24 patients (57%) received concomitant antibiotics. 45% of patients achieved a cure with another 12% were classified as improved but requiring further antibiotics. 31% (N=13) had failure of therapy of which, 69% (N=9) did not achieve prior source control. 5 patients were lost to follow up. Our health system saved 160 inpatient days through dalbavancin use.

Conclusion: Dalbavancin treatment had a high adherence rate with minimal adverse effects and achieved a positive outcome in 57% of patients. Of patients that failed, the majority did not have appropriate source control. Dalbavancin use has the potential to save inpatient days while offering a more convenient option for treatment. However, further studies should be conducted to evaluate its efficacy in comparison to standard of care therapy at our institution.

Disclosures: **All Authors**: No reported disclosures

315. Alternating Magnetic Fields (AMF) and Antibiotics Eradicate Biofilm on Metal in a Synergistic Fashion

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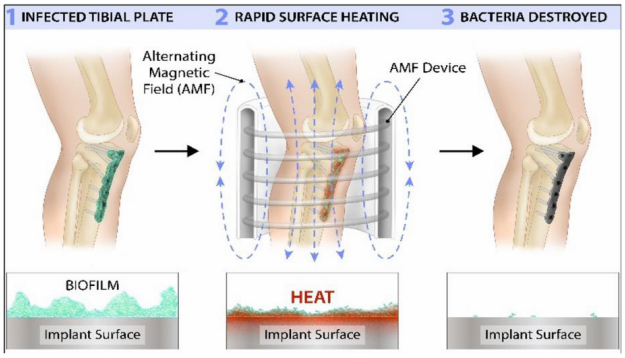
Session: P-10. Bone and Joint

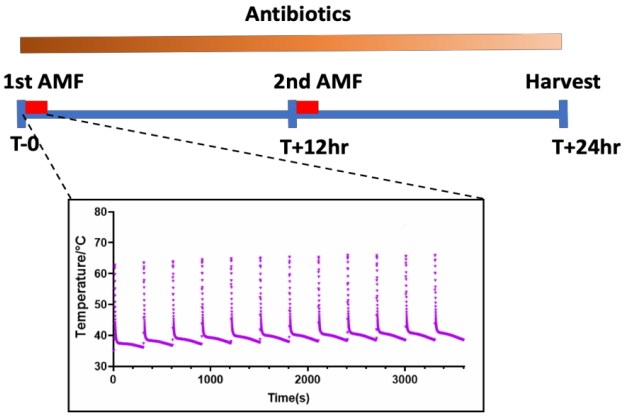
Background: Hundreds of thousands of human implant procedures require surgical revision each year due to infection. Implant infections are difficult to treat with conventional antibiotics due to the formation of biofilm on the device surface. We have developed a non-invasive method to treat metal implant infections using alternating magnetic fields (AMF). The outer surface of a metal implant is heated when exposed to AMF, and we hypothesize that this heating can be used to eradicate biofilm or sensitize them to antibiotics (Fig 1). This study investigated the interaction of biofilm and antibiotics *in vitro*.

Fig 1. Scheme showing the principle of AMF treating metal implant infection (MII).



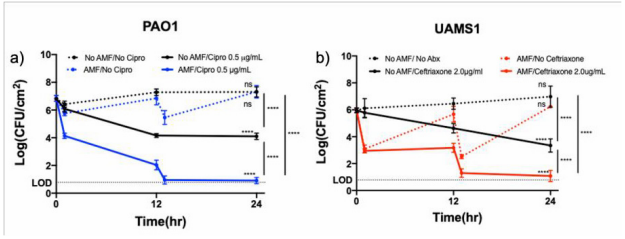
Methods: *P. aeruginosa* (PAO1) and *Staphylococcus aureus* (UAMS1) biofilms were cultured on stainless steel rings. The biofilms were then treated as in Fig 2, receiving a series of AMF exposures every 12 hours. Each dose of AMF was comprised of multiple 3s-AMF exposures every 5 min, with a peak ring temperature of 65 °C. Biofilms were incubated in the presence or absence 0.5 mg/mL ciprofloxacin or ceftriaxone. At the end of 12 and 24 hours, samples were harvested and colony forming units (CFU) were calculated.

Fig 2. AMF treatment design.



Results: AMF alone resulted in a transient decrease in CFU which recovered by the second dose. Antibiotics alone resulted in an ~2-log decrease in CFU at 24 hours. However, the combination of AMF plus cipro showed a synergistic response with a >4-log decrease (Fig 3a). Confocal microscopy confirmed these findings. This effect was not limited to *Pseudomonas aeruginosa* as similar synergistic responses were seen with *Staphylococcus aureus* and ceftriaxone (Fig 3b).

Fig 3 The bacteria number (CFU) change during 24 hr AMF and antibiotics treatment session. a) P. aeruginosa (PAO1) treated with AMF and ciprofloxacin. b) Staphylococcus aureus (UAMS1) treated with AMF and ceftriaxone.



Conclusion: When combined with antibiotics, AMF displays a synergistic effect in eradicating biofilm. This effect was seen in different pathogens and in multiple antibiotics. Synergy was seen at different target temperatures as well. This interaction has