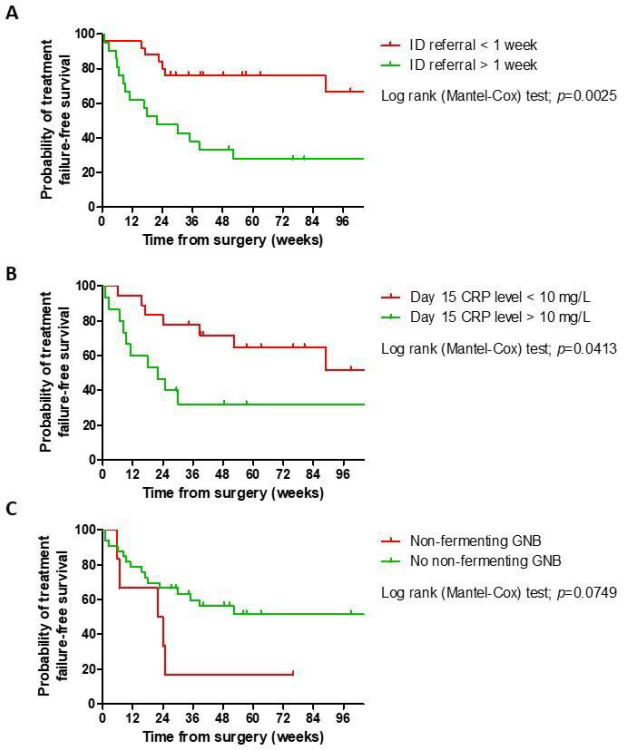
irradiation and intrabuccal exposure. We aimed to describe clinical and microbiological features, management and outcome of osteomyelitis following mandibular reconstruction with FFF.

Methods: Patients referred to our reference center for an osteomyelitis following FFF reconstruction of the mandible were included in a retrospective cohort. Microbiology was described based on gold-standard samples. Risk factors for treatment failure (infection persistence or relapse, need for additional surgery for septic reason, infection-related death) were assessed by logistic regression and Kaplan-Meier survival curve analysis.

Results: 48 patients (age, 60.5 [IQR, 52.4–66.6]; 30 males; 62.5%; modified Charlson comorbidity index, 4 [3–5]) were included. Indications for FFF mandible reconstruction were mostly carcinoma (n=27; 56.3%) and osteoradionecrosis (n=12; 25.0%), with 44 (82.9%) previous neck irradiation. FFF osteomyelitis were mostly early (≤ 3 months post-surgery; n=43; 89.6%). Main symptoms were local inflammation (n=28; 59.6%), ununion or sinus tract (n=28; 59.6%), bone or device exposure (n=21; 44.7%), and were associated with radiological signs for infection in 33 (75.0%) cases. Microbiological documentation highlighted *Enterobacteriaceae* (n=25; 61.0%), *Streptococcus* spp. (n=22; 53.7%), *S. aureus* (n=10; 24.4%), anaerobes (n=10, 24.4%), *Enterococcus* spp. (n=9; 22.0%) and non-fermenting Gram negative bacilli (GNB; n=8; 19.5%). Thirty-nine (81.3%) required surgery, consisting in debridement with implant retention in 25 (64.1%) cases, associated with a 93 (64–128) day course of antibiotherapy. After a follow-up of 18 (11–31) months, 24 (50.0%) treatment failure were observed. An early ID-specialist referral was the only significant predictor of favorable outcome (OR, 0.167; *p*=0.005). Non-fermenting GNB infections tended to be associated with a higher risk of failure (OR, 8.4; *p*=0.058).

Probability of treatment failure of osteomyelitis following FFF mandible reconstruction according to ID-referral (A), CRP level 2 weeks after surgery (B) and presence of non-fermenting GNB



Conclusion: Osteomyelitis following mandibular reconstruction with FFF represent difficult-to-treat infections. Our results advocate for a multidisciplinary management, including an early ID-specialist referral.

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

191. oral versus Intravenous Antibiotic Treatment in Skin and Soft Tissue Infections as a Consequence of Intravenous Drug Use: A Retrospective Study to Demonstrate Noninferiority

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Session: O-37. Skin, Soft Tissue, Bone & Joint Infections

Background: Skin and soft tissue infections (SSTIs) are among the most prevalent infectious complications of intravenous drug use (IVDU). Given its polymicrobial nature, studies focusing on SSTIs in the general population may not be generalizable this group. We completed a retrospective chart review to better characterize the safety and efficacy of oral versus intravenous (IV) antibiotics for the treatment SSTIs in IVDU.

Methods: We reviewed patients admitted with bacterial SSTIs and IVDU from January 01, 2012 to December 31, 2019 based on ICD-10 codes. SSTIs complicated by bacteremia, endocarditis, bone or joint involvement on index admission were excluded. Patients who received < 48 hours of IV antibiotics were considered oral therapy, otherwise they were considered IV therapy. Patient comorbidities, incision and drainage (I&D) status, substance use, microbiology and antimicrobial data were reviewed.

Results: Of 231 eligible patients, 84 received oral therapy. There was no statistical difference in patient characteristics between the two therapy groups. *Streptococcus anginosus* group were the most common organisms found (33%) followed by *Staphylococcus aureus* (31%). There was no statistical difference between rates of readmission (p=0.87), recurrent primary site infection (p=1.00), repeat debridement (p=0.08) or occurrence of deep-seated infections within 90 days of treatment completion. No morality was observed. The oral group had shorter length of stay (3 vs. 5 days, p < 0.001) and shorter total duration of antibiotics (10 vs. 13 days, p < 0.001). Overall, 90% of those with abscess underwent I&D, which did not differ between therapy groups. Time to I&D was shorter (0 vs. 1 day, p=0.005) in the oral group. Patients who did not receive and I&D were more likely to be readmitted within 90 days (p=0.025).

Conclusion: In SSTIs related to IVDU, oral antibiotic therapy was noninferior to IV in terms of mortality, readmission, and deep-seated infection rates within 90 days of treatment completion and had a decreased length of stay and total treatment duration. A delay in I&D led to increased length of stay and lack of I&D increased readmission rate. Therefore, a prompt I&D may allow a safe and effective early transition to oral therapy in SSTIs related to IVDU.

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

192. The Use of Area Under the Curve to Determine Therapeutic Vancomycin Dosing in Skin and Soft Tissue Infections

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Session: O-37. Skin, Soft Tissue, Bone & Joint Infections

Background: The vancomycin AUC/MIC target ratio of 400 to 600 mg*h/L that is recommended (level IA+) in the 2020 IDSA/ASHP vancomycin TDM guidelines is appropriate for patients with complicated MRSA infections; using lower targets for less complicated infections may reduce the risk for nephrotoxicity without compromising efficacy. The current methodology surrounding vancomycin AUC/MIC targets is unrefined, with no source specific targets identified, especially for relatively lower risk MRSA infections such as skin and soft tissue infections (SSTIs).

Methods: This was a retrospective observational study of hospitalized patients at the Veterans Affairs Health Care System in San Diego, CA with a SSTI and prescribed intravenous vancomycin between January 1, 2016 and December 31, 2019. Patients included were adults, 18 years of age and older, treated with IV vancomycin with ≥1 measured concentration for at least one of the ICD-10 CM codes for SSTI. Patients were excluded if they had any of the following SSTIs: (1) osteomyelitis; (2) infection related to chronic ulcers or wounds; (3) head SSTI; (4) peri-rectal SSTI; (5) human or animal bite SSTI; (6) SSTI related to retained foreign body; (7) necrotizing SSTI; (8) surgical site infection. Patients were also excluded if they were undergoing dialysis or had severe immunosuppression.

Results: A total of 722 patients on vancomycin for a SSTI were identified from the database query for screening, and 243 (34%) met inclusion criteria for the study. Classification and Regression Tree (CART) modeling identified a calculated AUC of >253 as having the highest correlation with clinical success. Clinical cure was significantly different between the AUC ≤253 (6/9 [67%]) and AUC >253 (214/234 [91%]) cohorts (p=0.043). There were no differences in hospital length of stay or duration of vancomycin therapy. Nephrotoxicity occurred in seven patients, all of who had AUC >253.

Conclusion: Overall treatment success in patients with SSTIs was associated with a vancomycin AUC >253, which is lower than the guideline recommended range of 400–600. Identification of vancomycin AUC targets for other low risk sources of infection, such as UTIs, is needed to prevent vancomycin overexposure.

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193. quality Improvement Initiative for Non-purulent Cellulitis Management in Urgent care setting: provider-level Performance Feedback

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Session: O-37. Skin, Soft Tissue, Bone & Joint Infections

Background: Methicillin-resistant *Staphylococcus aureus* (MRSA) has emerged as a common cause of skin and soft-tissue infections (SSTIs). This has resulted in an 88% increase in MRSA-directed antibiotic use in emergency departments. However, the majority of cellulitis presents as non-purulent due to Group A streptococci. An unintended consequence is that many with non-purulent cellulitis receive sub-optimal antibiotics and unnecessary diagnostics. Clinical guidelines at our institution recommend beta-lactam antibiotics and discourage empiric MRSA coverage for non-purulent cellulitis. The aim of this study is to use an audit-feedback intervention to optimize urgent care providers management of mild/moderate non-purulent cellulitis.

Methods: We identified all consecutive patients presenting to our urgent care with a diagnosis of lower extremity non-purulent cellulitis using ICD coding. We conducted a prospective pre and post-intervention study from 10/2018-3/2019 and 11/2019-4/2020 respectively. Intervention included review of practice guidelines with providers and feedback

from pre-intervention phase. To assess individual practitioners' prescribing habits, a comprehensive scoring system focused on empiric antibiotic selection, antibiotic duration, and diagnostics was combined with patient demographics. Scores classified non-purulent SSTI treatment as follows: 0–2 = good, 2.5–5 = fair, and >5.5 = poor (Figure 1).

Figure 1: Provider Cellulitis Management Scoring Sheet

Provider Cellulitis Management

1. Antibiotic Selection
   - Cephalexin or clindamycin (if PCN/cephalosporin allergy) – 0 points ____
   - Non-preferred beta-lactam- 0.5 points ____
   - Non-beta lactam- 1 point ____
2. Use of IV Antibiotics
   - Mild Cellulitis
     - Ceftriaxone or other beta-lactam- 1 point ____
     - Vancomycin- 2 points ____
   - Moderate Cellulitis
     - Cefazolin- 0 points ____
     - Ceftriaxone or other beta lactam- 0.5 points ____
     - Vancomycin- 2 points ____
3. Antibiotic Combination Therapy
   - No – 0 points ____
   - Yes- 1 point ____
4. Antibiotic Duration
   - 5-7 days or unknown- 0 points ____
   - 8 or more days – 1 point ____
5. Diagnostic Evaluation/Resource Utilization
   - Wound cultures- 1 point ____
   - Blood cultures- 1 point ____
   - Ultrasound- 1 point ____

Overall score ____
Good (0-2)
Fair (2.5-5)
Poor (5.5-10)

Results: There was statistically significant provider score improvement in the post-intervention phase with greater percentage of good cases (40% to 69%) and no poor cases (Figure 2). For IV antibiotics for mild and moderate cellulitis, there was decreased use of overly broad antibiotics (Figure 3). Antibiotic duration of greater than 7 days decreased from 68% to 52%. Combination antibiotic therapy decreased from 12% to 4%. There was also a statistically significant decrease in use of wound cultures but no change in ultrasound use.

Figure 2: Overall Provider Scores

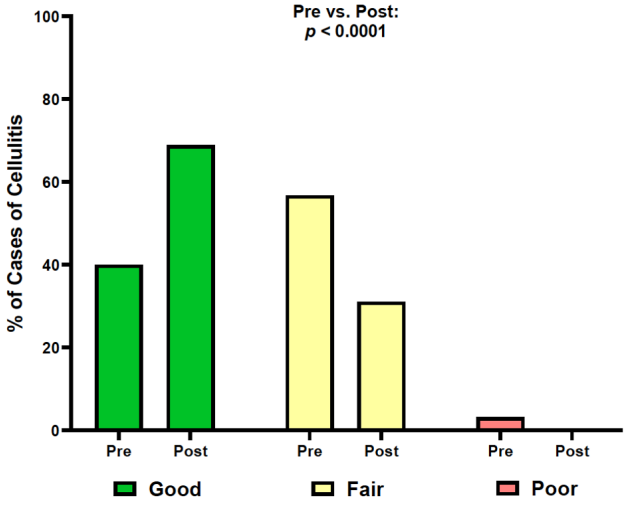
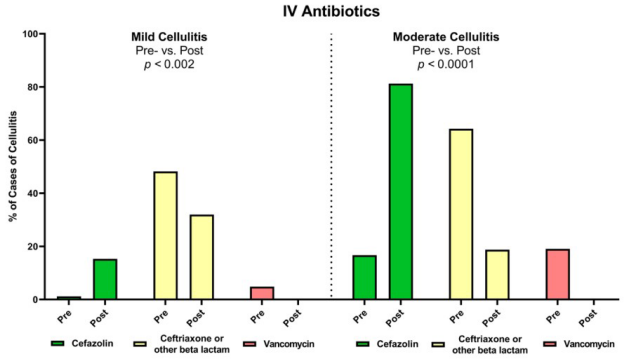


Figure 3: IV Antibiotic Use



Conclusion: Audit-feedback intervention was effective for improving antibiotic usage and decreasing treatment duration. Providing physicians with data on their practice patterns relative to those of their peers and clinical practice guidelines can improve management of non-purulent cellulitis.

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

194. Combinatorial Polyfunctionality Analysis of Antigen-specific T-cell Subsets (COMPASS) as a Predictor for Clinically Significant CMV Infection in the Letermovir Era

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Session: O-38. Transplant and Immunocompromosed Hosts

Background: Increased CMV reactivation is observed following discontinuation of letermovir prophylaxis after hematopoietic cellular transplantation (HCT) and decreased CMV-specific polyfunctional T-cell immunity has been proposed as a possible mechanism (*BBMT* 2020;26:S68). COMPASS is a novel analytical tool that integrates polyfunctional T-cell cytokine responses into a single score value (*Nat Biotechnol* 2015;33:610). We employed COMPASS for the first time in the HCT setting to determine if CMV-specific immunodeficiency is associated with late CMV events in a prospective cohort of allogeneic HCT recipients receiving either letermovir or preemptive therapy.

Methods: Peripheral blood mononuclear cells were collected 3 months post-HCT and assessed with a 13-color intracellular cytokine staining (ICS) assay that includes 5 functional markers. Intermediate early-1 (IE-1) antigen and phosphoprotein 65 (pp65) were used to stimulate polyfunctional T-cell responses that were defined using COMPASS generated polyfunctionality scores (PFS). CMV DNAemia was monitored by weekly plasma PCR and patients who reactivated were treated with preemptive therapy per institutional standards. Cumulative incidence of clinically significant CMV infection (cs-CMV; ≥500 IU/mL or CMV disease) by day 270 was assessed. Univariable and multivariable Cox regression were used to estimate the association of polyfunctional T-cell responses (upper quartile versus lower 3 quartiles) with cs-CMV infection by day 270 post-HCT.

Results: 56 letermovir recipients and 93 preemptive controls were evaluated. Time to first clinically significant CMV (cs-CMV) infection after HCT and among day 100 survivors in both groups is shown in **Figure 1**. COMPASS PFS at 3 months were significantly lower in letermovir recipients (**Figure 2**). After adjusting for CMV infection before day 100, CD4 and CD8 PFS to IE-1 and pp65 below the upper quartile were associated with higher risk of late cs-CMV infection, with IE-1 CD8 PFS reaching statistical significance (**Figure 3**).

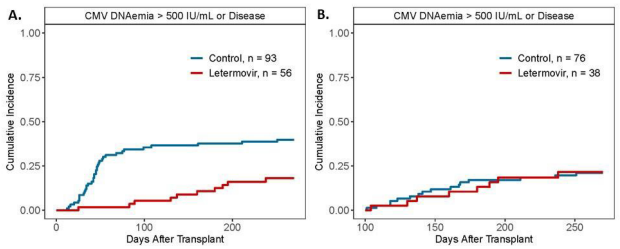

Figure 1 - Cumulative incidence of clinically significant CMV infection A) in first 270 days post HCT and B) from days 100-270 post-HCT. A positive viral event was defined by CMV disease or by a viral load greater than 500 IU/mL for the assay used. Death was treated as a competing risk.

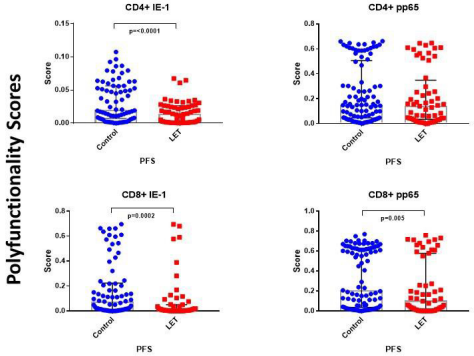

Figure 2 – COMPASS generated polyfunctionality (PFS) scores for letermovir (LET) recipients and preemptive controls. Comparisons were made using Wilcoxon rank-sum test. Decreased PFS is noted in the LET group with respect to CD4+ IE-1, CD8+ IE-1, and CD8+ pp65 responses.