

Adverse events associated with the presence and treatment of chronic osteomyelitis

Renee Breaux¹, Angella Chang¹, Charlotte Pearson¹, Thuc Truong¹, Jessica Rivera, MD, PhD²

¹ Louisiana State University Health Sciences Center, School of Medicine, New Orleans, LA
² Department of Orthopedic Surgery, Louisiana State University Health Sciences Center, School of Medicine, New Orleans, LA



Introduction

- Many adverse reactions are associated with the presence and treatment of chronic osteomyelitis (COM)
- Adverse reactions to long-term antibiotics
 - 26.2% of adverse drug reactions are caused by antibiotics
 - The standard of care for COM is ≥ 6 weeks IV antibiotics
 - Long-term antibiotic administration is associated with an increased risk of complications
- Complications during the course of COM
 - Diabetic foot osteomyelitis (DFO) increases the risk of acute kidney infections (AKI)
 - COM-induced AKI is associated with an increased number of hospitalizations and infection recurrences

Methods

- Retrospective cohort study
- 40 patients diagnosed with COM of the pelvis, long bones, and/or foot between January 2016 and June 2022
- Treated at University Medical Center's Orthopedic Clinic in New Orleans, LA
- Relevant patient information collected from Epic and recorded into RedCap, including:
 - Adverse reactions to long-term antibiotics (≥ 6 weeks administration)
 - Treatment complications (hepatic dysfunction, renal dysfunction, anemia, blood clots, hypercalcemia, neutropenia, rash, blood infections, PICC line infections, hearing loss)

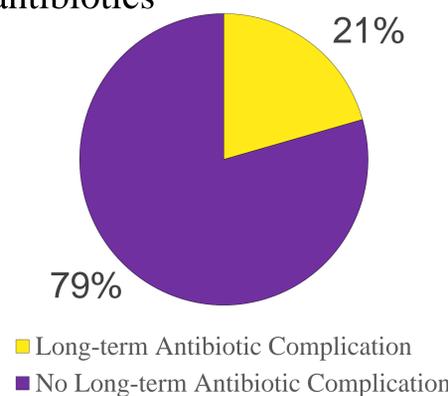
Purpose

1. Determine the frequency of adverse reactions to long-term antibiotics used to treat COM
2. Determine the frequency of complications associated with COM treatment
3. Determine the most common complications associated with COM treatment

Results: Adverse reactions to long-term antibiotics

- 34 patients received long-term antibiotics
- 20.59% of those patients experienced an adverse reaction to long-term antibiotics

Figure 1: Frequency of Adverse Reactions to Long-Term Antibiotics
Number of patients with a complication compared to those without



Results: Complications throughout the course of COM

- 32 total complications
- 45% of patients experienced at least 1 complication, with an average of .8 complications per patient
- Most common complications
 - 31.25% of patients experienced anemia
 - 25% of patients experienced hepatic

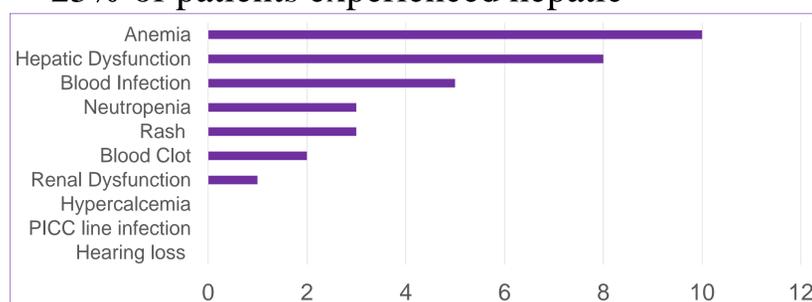


Figure 2: Frequency of COM Complications Number of patients diagnosed with a complication during course of COM

Conclusions

- The frequency of adverse reactions to antibiotic treatment demonstrates the importance of monitoring patients on long-term antibiotics and understanding the signs of an adverse reaction
- The frequency of COM complications highlights the importance of screening for certain adverse events, especially anemia and hepatic dysfunction
- It is possible that, through early intervention, the quality and efficiency of COM treatment will improve

Future Work

- Identify antibiotics that are the most common causes of adverse reactions
- Determine risk factors that may be associated with adverse reactions to long-term antibiotics
- Determine the best choice for antibiotic replacement following an adverse reaction
- Isolate the root causes of COM complications
- Identify useful tactics to decrease the risk of COM complications

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