included allergies (N = 6), GI toxicity (N = 5), increased liver function tests (N = 2), leukopenia (N = 2), acute kidney injury (N = 1), exacerbated epilepsy (possibly due to low phenytoin; N = 1), and vasculitis (N = 1). Patient age, sex, and Charlson comorbidity index did not predict rifampin intolerance. In 5/80 (6%) patients who never received rifampin, reasons included liver disease, drug interactions, and rifampin resistance. Overall, 27% (22/80) could not be adequately treated with rifampin.

Conclusion. In this study cohort of PJI patients, contraindications to rifampin initiation were infrequent, but discontinuation due to intolerance, allergy, or toxicity occurred in nearly a quarter of patients. Drug-drug interactions can preclude its use, or may cause important medication switches in critical areas such as antiocoagulation, epilepsy treatment, and HIV care. Research into the anti-staphylococcal efficacy and safety of alternative rifamycins (such as rifabutin and rifapentine) in patients with epilepsy treatment, and HIV care. Research into the anti-staphylococcal efficacy and resistance. Overall, 27% (22/80) could not be adequately treated with rifampin.

Disclosures. All authors: No reported disclosures.

396. Aminoglycoside Acute Kidney Injury (AKI) Following the Implantation of Tobramycin Loaded Polymethylmethacrylate (PMMA) Cement and Calcium Sulfate (CaSO₄) Beads for the Treatment of Periprosthetic Joint Infection (PJI); Logan Varick, PharmD¹, Raymond Chun, MD² and Joshua Minuto, MD³; Sharp Memorial Hospital, San Diego, California; Sharp Medical Group, San Diego, California; Sharp Rees-Stealy Medical Group, Sharp Memorial Hospital, San Diego, California

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Background. Antibiotic loaded bone cement (ALBC) in PMMA, generally with tobramycin and vancomycin (TV) is commonly used for the treatment of PJI. CaSO₄ loaded with TV is biodegradable and can be used alone or in combination with PMMA. Identification of AKI following documented of sustained supratherapeutic tobramycin levels a patient with chronic PJI treated with ALBC (both PMMA + CaSO₄) prompted the development of guidelines to mitigate risk of AKI in patients treated with ALBC. Although AKI may be enhanced with vancomycin, case reports with TV in PMMA implicate tobramycin. We provide data in a cohort of patients treated for PJI using PMMA or PMMA + CaSO₄.

Methods. Data were obtained to describe clinical findings. As part of a quality improvement initiative, tobramycin and serum creatinine levels were obtained in eight subsequent patients who received PMMA or PMMA + CaSO₄ and clinical guidelines were developed to standardize aminoglycoside dosing and monitoring. Vancomycin levels were not routinely measured.

Results. Figure 1 describes the clinical course of the index patient. Table 1 lists doses, serum creatinine and tobramycin levels the cohort of PJI patients. All patients treated with PMMA + CaSO₄ had tobramycin levels from 3.5 to 8.7 μg/mL on a postoperative day (POD) 1 compared with < 2 μg/mL in patients treated with PMMA alone. All patients' levels peaked on POD 1.

Conclusion. Patients treated with CaSO₄ had higher levels in the early postoperative period compared with patients treated with PMMA. In all patients, serum levels appeared similar after 48 to 72 hours. Our experience suggests the use of CaSO₄ + PMMA or CaSO₄ + and clinical guidelines were developed to standardize aminoglycoside dosing and monitoring. Vancomycin levels were not routinely measured.

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398. Description of a Large Pediatric Lyme Arthritis Cohort in an Endemic Region
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Background. In endemic areas, Lyme arthritis (LA) is a leading cause of joint swelling. Due to the shared inflammatory nature and common clinical features, acute LA is often misdiagnosed as septic arthritis (SA) while recurrent disease is at times difficult to differentiate from other causes of chronic arthritis. In Minnesota, there has been a steady increase in cases of Lyme disease. This has not been met by a clear clinical guideline and there is no consensus for the management of pediatric arthritis. In this context, we sought to characterize the epidemiology and clinical presentation of a large local cohort.

Methods. This is a retrospective review of medical charts from children with confirmed LA, presented at a large academic medical organization in the Upper Midwest between January 2011 to December 2017. Demographic, clinical, and laboratory data were collected and analyzed.

Results. Lyme arthritis was confirmed in 109 children. Acute presentation was more common (67) while the rest (42) had either persistence or reoccurrence of symptoms [Figure 1]. Elevated inflammatory markers and synovial pleocytosis were common, unlike fever and refusal to bear weight which were seen occasionally [Figure 2]. Seasonal distribution and the clinical setting for initial presentation as well as admissions are summarized in Figure 3. The knee was involved in all but 2 patients, both had acute monoarthritis (elbow and hip) [Figure 4].

Conclusion. LA causes a spectrum of disease, is seen year round, and across the clinical setting continuum. Acute knee monoarthritis is the most common presentation (54% in our cohort) and is often misdiagnosed as SA leading to unnecessary hospitalizations and aggressive interventions. This occurs more frequently at the ED setting, and for children with significant synovial pleocytosis. When evaluating a child with arthritis, laboratory findings are non specific and should be used in caution. Pediatric providers in endemic regions, especially those in primary, hospital, or emergency care must be familiar with the clinical presentation and have a high index of suspicion for LA in order to prevent mismanagement.

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