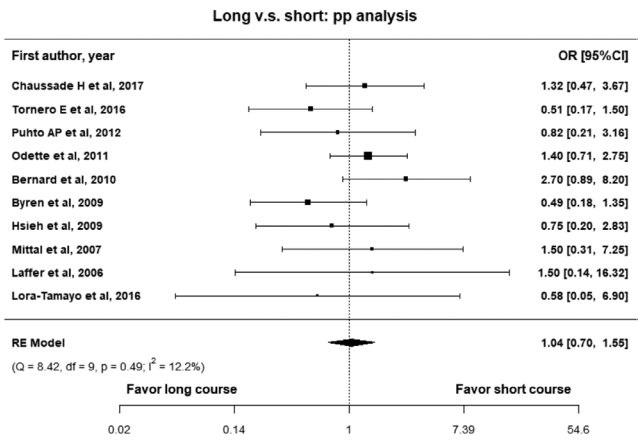
Figure 2. Forest plot



Disclosures. **All authors:** No reported disclosures.

305. Enterobacteriaceae Native Joint Septic Arthritis

Boris Yow, MBChB[1]; Stephen McBride, BHB, MBChB[2]; Jessica Mowbray, MBChB[3]; William Caughey, MBChB[3]; Edbert Wong, MBChB[2]; Christopher Luey, MBChB[1]; Ahsan Siddiqui, MB BS[2]; Zanazir Alexander, MBChB[3]; Veronica Playle, MBChB[1]; Timothy Askelund, MBChB[1]; Christopher Hopkins, MD[4]; Norman Quek, MBChB[1]; Katie Ross, MBChB[1] and David Holland, MBChB FRACP FRCPA PhD[1]; [1]Middlemore Hospital, Auckland, New Zealand, [2]Department of Medicine, Middlemore Hospital, Auckland, New Zealand, [3]Department of Surgery, Middlemore Hospital, Auckland, New Zealand, [4]Infectious Diseases, Middlemore Hospital, Auckland, New Zealand

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Background. Native joint septic arthritis (NJSA) is commonly caused by Gram-positive organisms. Gram-negative NJSA is uncommon, and discussion is usually limited to gonococcal arthritis despite NJSA due to enterobacteriaceae being more prevalent. We aimed to describe the clinical features, treatment, and outcomes of enterobacteriaceae NJSA (ENJSA).

Methods. Cases were obtained from a previously described retrospective cohort of adult NJSA admitted to Middlemore Hospital, Auckland, and New Zealand between January 1, 2009 and December 31, 2014. ENJSA episodes were compared with non-Enterobacteriaceae NJSA (NENJSA).

Results. From 543 NJSA episodes identified, ENJSA were the most frequent Gram-negative group (7%, 36/543) followed by HACEK (25/543), nonfermenters (10/543), Pasteurella (9/543), and Neisseria (5/543). The median age of ENJSA cases was 50 years and 72% were male. Immune compromise was more prevalent in ENJSA (19%, 7/36) than NENJSA (8%, 42/507), $P = 0.0341$. The most common causative organism for ENJSA was *E. coli* (10/36), followed by *Enterobacter cloacae* (8/36) and *Klebsiella pneumoniae* (6/36). Polymicrobial infection was more common in ENJSA (64%, 23/36) than NENJSA (20%, 99/507), $P \leq 0.0001$. All ENJSA cases were monoarticular, and 72% (26/36) affected large joints. Small joint infection was less common in ENJSA (28%, 10/36) than NENJSA (47%, 240/507), $P = 0.0247$. Osteomyelitis was more common in ENJSA (53%, 19/36) than NENJSA (23%, 116/507), $P = 0.0002$. Carbapenems and ciprofloxacin were the most commonly utilised antimicrobials for ENJSA. Clinical outcomes were worse for ENJSA, with higher rates of treatment failure (53%, 19/36) than NENJSA (15%, 76/507), $P = 0.0001$ (although this association did not persist on multivariate analysis of the whole cohort) and longer mean length of stay (23.2 vs. 12.8 days $P = 0.0001$).

Conclusion. Enterobacteriaceae are an important and poorly described cause of NJSA, associated with immune compromise, large joint infection, polymicrobial infection, treatment failure, and increased hospital length of stay. The optimal management strategy to improve ENJSA outcomes is unknown, but may include more aggressive surgical and longer medical therapy. Further studies of ENJSA are warranted.

Disclosures. **All authors:** No reported disclosures.

306. Safety and Tolerability of Tedizolid as Oral Treatment for Bone and Joint Infections

Bryn Launer, BA[1]; Evelyn A. Flores, BS[2]; Maita Kuvhenguhwa, MD[2]; Tae Kim, MPH[2]; Kelli Derrah, BA[2] and Loren G. Miller, MD, MPH[3]; [1]University of Colorado Denver School of Medicine, Aurora, Colorado, [2]Los Angeles Biomedical Research Institute, Torrance, California, [3]Harbor-UCLA Med. Ctr., Los Angeles, California

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Background. Bone and joint infections (BJIs) are common infections managed by infectious diseases specialists. There are increasing data that oral therapy is equivalent to intravenous therapy and is typically preferred by patients. However, there are limited safe oral options to treat some causative pathogens. Tedizolid is an oxazolidinone with broad Gram-positive coverage that in animal studies lacks the hematologic and neurologic toxicity of linezolid.

Methods. We are conducting an open-label single-center trial of oral tedizolid for the treatment of BJIs. The primary outcome of this study is patient safety. Patients are eligible if they have a BJI caused by documented or suspected Gram-positive pathogen and require at least 4 weeks of therapy (up to 12 weeks). Enrolled patients undergo weekly monitoring for neurologic and visual, side effects and weekly hematologic and comprehensive chemistry panel lab monitoring. Patients with peripheral neuropathy and cytopenias are excluded from participation.

Results. To date, we have enrolled 19 subjects (17 (89%) male) with BJIs (11 (58%) hardware associated infection, 5 (26%) osteomyelitis without prosthesis, 3 (16%) prosthetic joint infection). Significant comorbidities include six (32%) with diabetes and one (5%) with systemic lupus. Fourteen (74%) patients have completed therapy, two (11%) remain on therapy, one (5%) withdrew from the study, and two (11%) were lost to follow-up. Mean (median) duration of treatment has been 9.7 (11) weeks with a range of 4–12 weeks. Significant drug-related adverse events occurred in two patients (11%), both with non-life-threatening maculopapular rashes, one of whom required treatment discontinuation. To date, there have been 10/14 (71%) treatment successes. Failures have been associated with previously undetected retained hardware ($n = 1$), sequestrum requiring surgery ($n = 1$), and failure to achieve cure after the designated treatment course ($n = 2$). There have been no cases of cytopenias, peripheral or optic neuropathy.

Conclusion. Tedizolid appears to be a well-tolerated oral antibiotic for the treatment of bone and joint infections for 4 weeks or greater. Clinical failure rates appear roughly similar to that of other oral options. Further study of tedizolid for BJIs is warranted.

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307. Evaluation of the Diagnostic Approach to Native Spondylodiskitis

Rachel Weihe, MD[1]; Douglas Burton, MD[2]; Sean Jackson, MD[2]; Alan Reeves, MD[2]; Duncan Rotich, MS[2]; Jianghua He, PhD[2] and Wissam El Atrouni, MD, MSc[3]; [1]Infectious Disease, University of Kansas Medical Center, Kansas City, Kansas, [2]University of Kansas Medical Center, Kansas City, Kansas, [3]Department of Internal Medicine, Division of Infectious Diseases, University of Kansas Medical Center, Kansas City, Kansas

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Background. Current approaches for diagnosis of native spondylodiskitis are variable, as is the yield of image guided spinal biopsy.

Methods. This is a retrospective cohort study including adults determined to have native spondylodiskitis at our institution from January 2007 through July 2017. Inclusion criteria were imaging suggestive of spondylodiskitis, with either positive blood culture and/or a spinal biopsy culture or histopathology. Those with historical diagnosis or surgical site infections were excluded. Histopathology was the gold standard test for sensitivity/specificity calculation. Univariate logistic regression was used to predict positive biopsy culture.

Results. A total of 221 patients met our inclusion criteria, of which 203 (91.8%) had blood cultures done (112/203 positive, 55.2%), and 173 (78.2%) had spinal biopsy done of which 113 (65.0%) had received antibiotics within the preceding 2 weeks and 63 (36.4%) had positive culture. Forty-three bone specimens were cultured, and six (13.9%) were positive, while 136 disk specimens were cultured, and 58 (42.6%) were positive. There were 84 (48.5%) biopsies with histopathology performed on either bone or disk specimens, of which 47 (55.9%) were diagnostic. The sensitivity of bone culture was 27.3%, with a specificity of 91.7%. The sensitivity of disk culture was 52.6%, with a specificity of 75.0%. A single biopsy episode sensitivity was 48.9%, and specificity was 80.8%. A total of 23 (13.4%) patients had repeat biopsies (10 bone, 14 disk), five of which had positive cultures (21.7%). On univariate logistic regression, only a positive blood culture was predictive of a positive biopsy culture (odds ratio (OR) 13.08, 95% confidence interval (CI) 1.97–86.81, $P = 0.007$). Disk culture had a higher yield than bone culture (OR 2.29; CI 0.91–5.73, $P = 0.077$) and prior antibiotics decreased the yield (OR 0.17; 95% CI 0.02–1.21, $P = 0.078$).

Conclusion. The combination of histopathology and cultures including both bone and disk from spinal biopsies improve the diagnostic yield of native spondylodiskitis. Some patients require repeat biopsy.