antibiotic prescribing. A more sophisticated classification system may help to accommodate the diversity and volume of ICD-10 codes used in primary care.


**Funding:** None

**Disclosures:** None

*Antimicrobial Stewardship & Healthcare Epidemiology 2022;2(Suppl. S1):s70–s71 doi:10.1017/ash.2022.192*

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**Presentation Type:** Poster Presentation - Oral Presentation

**Subject Category:** Antibiotic Stewardship

**Evaluation of periprocedure antibiotics and infection-related hospitalizations after transrectal prostate biopsies**

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**Background:** Prostate cancer is the leading cancer diagnosis and the second leading cause of cancer deaths in men. Definitive diagnosis is made by prostate biopsy. This procedure poses a risk of infection and, rarely, sepsis. Studies have found the incidence of symptomatic urinary tract infection (UTI) after biopsy to be 2%–3%, and the rate of infection-related hospitalization (IRH) to be 0.6%–4.1%. An initial review at our facility found the IRH rate to be 3.7%. The primary purpose of this study was to determine the incidence of IRH following prostate biopsy in patients at the Memphis VA Medical Center (VAMC) after initial review and education.

**Methods:** All transrectal prostate biopsies performed at the Memphis VAMC from October 2017 through May 2021 were analyzed. Patients were excluded if they had a spinal cord injury or concomitant procedure. The primary outcome was IRH occurring within 30 days of the procedure. Variables collected included risk factors, antibiotic choice and duration, and details of postprocedural infections. Analyses were performed on a per-procedure basis.

**Results:** Overall, 601 procedures were identified; 13 were excluded, for a total of 588 transrectal prostate biopsies on 533 patients. All patients were given antibiotics. Oral antibiotics alone were provided for 306 procedures (52%) for an average duration of 3 days. A combination of both oral and intramuscular antibiotics were provided for 282 (48%) procedures. The most common oral antibiotics used were cefuroxime (538, 91.4%), ciprofloxacin (17, 2.9%), amoxicillin–clavulanate (16, 2.7%), and sulfamethoxazole–trimethoprim (12, 2%). Intramuscular antibiotics included ceftriaxone (263, 93.3%) and gentamicin (19, 6.7%). An infectious complication occurred in 29 patients (4.9%): 26 (3.4%) were urogenital and 3 (0.8%) required hospitalization. Of the procedures complicated by a postprocedure infection, 22 (75.9%) received an oral antibiotic alone, 21 (95.4%) of which were cefuroxime, and 7 (24.1%) received both an intramuscular and an oral agent. Conclusions: In our initial review, the most common antibiotics used were fluoroquinolones, with an average duration of 3 days periprocedure and an IRH rate of 3.7%. These findings were used to reinforce practices compliant with American Urological Association (AUA) guidelines. This follow-up review reveals that the first-line choice changed from fluoroquinolones to cephalosporins, with average duration remaining at 3 days. Although the overall infection rate was 4.9%, the IRH rate decreased from 3.7% to 0.8%.

**Funding:** None

**Disclosures:** None

*Antimicrobial Stewardship & Healthcare Epidemiology 2022;2(Suppl. S1):s70–s71 doi:10.1017/ash.2022.193*

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**Presentation Type:** Poster Presentation - Oral Presentation

**Subject Category:** Antibiotic Stewardship

**Rates of intravenous antibiotic starts among outpatient hemodialysis patients using NHSN dialysis event reporting, 2016–2020**

William Wilson; Sarah Kabban; Shannon Novosad; Lucy Fike; Katryna Gouin; Jeneita Bell; Suparna Bagchi; Jonathan Edwards; Ibironke Apata and Susan Cali

**Background:** Nearly one-third of patients on hemodialysis receive intravenous (IV) antibiotics annually, but national data characterizing antibiotic use in this population are limited. Using NHSN surveillance data for outpatient dialysis facilities, we estimated temporal changes in the rate of IV antibiotic starts (IVAS) among hemodialysis patients as well as the proportion of IVAS that were not supported by a reported clinical indication. Conclusions: Using NHSN surveillance data for outpatient dialysis facilities, we estimated temporal changes in the rate of IV antibiotic starts (IVAS) among hemodialysis patients as well as the proportion of IVAS that were not supported by a reported clinical indication. Overall, 601 procedures were identified; 13 were excluded, for a total of 588 transrectal prostate biopsies on 533 patients. All patients were given antibiotics. Oral antibiotics alone were provided for 306 procedures (52%) for an average duration of 3 days. A combination of both oral and intramuscular antibiotics were provided for 282 (48%) procedures. The most common oral antibiotics used were cefuroxime (538, 91.4%), ciprofloxacin (17, 2.9%), amoxicillin–clavulanate (16, 2.7%), and sulfamethoxazole–trimethoprim (12, 2%). Intramuscular antibiotics included ceftriaxone (263, 93.3%) and gentamicin (19, 6.7%). An infectious complication occurred in 29 patients (4.9%): 26 (3.4%) were urogenital and 3 (0.8%) required hospitalization. Of the procedures complicated by a postprocedure infection, 22 (75.9%) received an oral antibiotic alone, 21 (95.4%) of which were cefuroxime, and 7 (24.1%) received both an intramuscular and an oral agent.

Conclusions: In our initial review, the most common antibiotics used were fluoroquinolones, with an average duration of 3 days periprocedure and an IRH rate of 3.7%. These findings were used to reinforce practices compliant with American Urological Association (AUA) guidelines. This follow-up review reveals that the first-line choice changed from fluoroquinolones to cephalosporins, with average duration remaining at 3 days. Although the overall infection rate was 4.9%, the IRH rate decreased from 3.7% to 0.8%.
Presentation Type: Poster Presentation - Oral Presentation
Subject Category: C. difficile
Comparison of fidaxomicin to oral vancomycin for the treatment of Clostridioides difficile infection in hospitalized patients
A. Krishna Rao; Qianzi Zhao; Jay Krishnan; Justin Bell; Oryan Henig; Jolene Daniel; Kara Sawaya; Owen Albin; John Mills; Lindsay Petty; Kevin Gregg; Daniel Kaul; Anurag Malani; Jason Pogue and Keith Kaye

Background: Clostridioides difficile infection (CDI) is a major source of morbidity and mortality. Even after recovery, recurrent CDI (rCDI) occurs frequently, and concomitant antibiotic use for treatment of a concurrent non-C. difficile infection is a major risk factor. Treatment with fidaxomicin versus vancomycin is associated with similar rate of cure and lower recurrence risk. However, the comparative efficacy of these 2 agents remains unclear in those receiving concomitant antibiotics. Methods: We conducted a randomized, controlled, open-label trial at the University of Michigan and St. Joseph Mercy hospitals in Ann Arbor, Michigan. Patients provided written informed consent at enrollment. We included all hospitalized patients aged ≥18 years with a positive test for toxigenic C. difficile, >3 unformed stools per 24 hours, and ≥1 qualifying concomitant antibiotic with a planned treatment of an infection for ≥5 days after enrollment. We excluded patients with complicated CDI, allergy to vancomycin–fidaxomicin, planned adjunctive CDI treatments, CDI treatment for >24 hours prior to enrollment, concomitant laxative use, current or planned colostomy or ileostomy, and/or planned long-term (>12 weeks) concomitant antibiotic use. Clinical cure was defined as resolution of diarrhea for 2 consecutive days maintained until the end of therapy and for 2 days afterward. rCDI was defined as recurrent diarrhea with positive testing within 30 days of initial treatment. Patients were randomized (stratified by ICU status) to fidaxomicin 200 mg twice daily or vancomycin 125 mg orally 4 times daily for 10 days. If concomitant antibiotic treatment continued >10 days, the study drug continued until the concomitant antibiotic ended. Bivariable statistics included t tests and χ^2 tests. Results: After screening 5,101 patients for eligibility (May 2017–May 2021), 144 were included and randomized (Fig. 1). Study characteristics and outcomes are noted in Table 1. Baseline characteristics were similar between groups. Most patients were aged <65 years, were on a proton-pump inhibitor (PPI), and were not in the ICU. The mean duration of concomitant antibiotic was 18.4 days. In the intention-to-treat population, clinical cure (73% vs 62.9%; P = .195), and rCDI (3.3% vs 4.0%; P = .99) were similar for fidaxomicin and vancomycin, respectively. Conclusions: In this study of patients with CDI receiving a concomitant antibiotic, a numerically higher proportion were cured with fidaxomicin versus vancomycin, but this result did not reach statistical significance. Overall recurrence was lower than anticipated in both arms compared to previous studies in which duration of CDI treatment was not extended during concomitant antibiotic treatment. Future studies are needed to ascertain whether clinical cure is higher with fidaxomicin than vancomycin during concomitant antibiotic exposure, and whether extending the duration of CDI treatment reduces recurrence.

Funding: Merck & Co.
Disclosures: None
Antimicrobial Stewardship & Healthcare Epidemiology 2022;2(Suppl. S1):s72
doi:10.1017/ash.2022.195