

22 Prolonged antibiotic prophylaxis in women with recurrent urinary tract infection



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OBJECTIVES: Long term management of women with uncomplicated recurrent urinary tract infection (UTI) is challenging. Although continuous antibiotic prophylaxis is a common form of management, its use is recommended generally for no longer than 12 months. We aimed to evaluate antibiotic resistance and tolerability in women with recurrent UTI treated with “prolonged” continuous antibiotic prophylaxis, defined as longer than 12 months.

MATERIALS AND METHODS: A retrospective query was performed to identify adult women referred to TTUHSC-EP Urogynecology clinic with uncomplicated recurrent UTI from 1/1/2014-12/31/2018. Recurrent UTI was defined as ≥ 2 symptomatic UTIs in a 6-month period or ≥ 3 in a 12-month period. Exclusion criteria included symptomatic prolapse, pelvic malignancy, urinary retention, voiding dysfunction with prior incontinence surgery and active pregnancy. Demographic and clinical data, including strategy and duration of treatment, was recorded for initial and subsequent clinic visits, until present time. “Resistance” was defined as resistance to prophylactic antibiotic as per urine culture in a symptomatic UTI during the prophylaxis course. Descriptive statistics were calculated. Two sample t-tests and Chi square were used for between-group comparisons. Multiple logistic regression was performed to evaluate antibiotic resistance between different duration of antibiotic prophylaxis.

RESULTS: One hundred and eighty four women met inclusion criteria. Mean age was 62.1 ± 16 . Total follow up time from initial visit was 60.3 ± 59.4 weeks. Initial strategies for prophylaxis included daily or intermittent antibiotics (60.8%), vaginal estrogen (45%), D-mannose (2.6%) and cranberry (1.5%) supplements, alone or in combination. Eventually, most patients were started on continuous antibiotic prophylaxis (84%). Twenty-seven percent ($N=42$) of those on continuous antibiotic prophylaxis had a “prolonged” duration. Resistance to prophylactic antibiotic occurred in 19.1% of those on “prolonged” courses vs. 5.3% of those on courses of ≤ 12 months (OR 3.7, 95%CI 1.14-12.18, $p=0.03$). For those on “prolonged” antibiotic prophylaxis, time to antibiotic resistance was 136.5 ± 92.8 weeks. On regression, factors including age, parity, prior incontinence surgery and prolapse stage did not significantly increase risk for resistance, with exception of thyroid disease (OR 4.8 95%CI 1.43-16.01, $p=0.01$). There were no cases of discontinuation of continuous prophylaxis due to abnormalities in liver or renal function, or intolerance to antibiotic.

CONCLUSION: In women with recurrent UTI, continuous antibiotic prophylaxis longer than 12 months was associated with an almost four-fold increased risk for resistance to the prophylactic antibiotic. However, the mean time for resistance was ≥ 2.5 years, and prophylaxis was well tolerated. Prolonged antibiotic prophylaxis seems acceptable with appropriate monitoring and counseling on the risk of resistance.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Kimberly Zachow: Nothing to disclose; Seralyn Sanchez: Nothing to disclose; Pedro A. Maldonado: Nothing to disclose; Teodoro I. Montoya: Nothing to disclose.

23 Chlorhexidine gluconate vaginal preparation to prevent gynecologic surgical site infections: a quality improvement project



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OBJECTIVES: Chlorhexidine gluconate has been shown to be superior to povidone iodine at decreasing bacterial colony counts. It has also been shown to be superior to povidone iodine at decreasing postpartum endometritis after cesarean delivery. Additionally, multiple studies have shown that 4% chlorhexidine gluconate is safe for use in the vagina despite the manufacturer’s label stating it is not for use in genital area. The objective of this project is to decrease surgical site infections after gynecologic surgery at a single institution by implementing a standard vaginal preparation with 4% chlorhexidine gluconate preparation.

MATERIALS AND METHODS: Data from the American College of Surgeons National Surgical Quality Improvement Program (NSQIP) was used to assess the rate of surgical site infections and surgical readmissions at our institution prior to and after the implementation of a standardized vaginal preparation with chlorhexidine gluconate. At our institution, there was not a standard vaginal preparation used, although povidone iodine was used most commonly. Chlorhexidine gluconate was established as the standard vaginal preparation at our institution in July 2019.

RESULTS: After implementation, our NSQIP surgical site infection occurrence decreased to 1.1% in 2019 and 2.2% in 2020. Additionally, readmission after gynecologic surgery decreased over this time frame. Prior to this, our 2018 NSQIP data showed a surgical site infection occurrence of 3.4% which was higher than the national average.

CONCLUSION: In conclusion, implementing a standard vaginal preparation for gynecologic surgery with 4% chlorhexidine gluconate decreased the rate of surgical site infections and readmissions after gynecologic surgery at our institution.

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Kelly H. Shay: Nothing to disclose; Christine M. Vaccaro: Nothing to disclose.

24 External validation and updating of a model to predict urinary tract infection after urogynecologic surgery



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OBJECTIVES: To externally validate and update a previously published model predicting postoperative urinary tract infection (UTI) after benign hysterectomy in a geographically distinct cohort of women undergoing urogynecologic surgery.

MATERIALS AND METHODS: The validation cohort included 351 women who underwent urogynecologic surgery at an academic health system between January and August 2019. Individuals who underwent sacral neuromodulation, non-pelvic floor surgeries, and repeat surgery within 6 months were excluded. Clinical and surgical characteristics were abstracted from the medical record. Primary outcome was incidence of UTI up to 6 weeks after surgery, defined as: UTI symptoms with positive urine culture, physician diagnosis, or decision to treat with antibiotics per the National Surgical Quality Improvement Program guidelines. Missing predictor values were imputed. Predicted probabilities of postoperative UTI were