

Antibiotic Prophylaxis for Urodynamic Testing in Women: A Systematic Review

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Introduction

Urinary tract infection (UTI) is the most common complication after urodynamic studies (UDS) with incidence reported in the literature as high as 28%. The American College of Obstetrician and Gynecologists (ACOG) does not, however, recommend routine antibiotic prophylaxis based on a 2012 Cochrane review, which advised on the premise of “a lack of good quality studies” and an assumed low incidence that is not consistently supported by the literature. Conversely, the Society of Obstetricians and Gynaecologists of Canada (SOGC) supports antibiotic prophylaxis if the baseline incidence of UTI following UDS is over 10 percent. To date, there has not been a female-specific systematic review on this topic. Physicians must thus each weigh the risks of UTI after UDS against the risks of antibiotic prophylaxis independently with little guidance.

Objectives

This systematic review aims to update the assessment of the efficacy of antibiotic prophylaxis compared with placebo or no treatment for prevention of UTI in females over the age of 18 undergoing UDS.

Methods

MEDLINE, CINAHL, EMBASE, COCHRANE, ProQuest Dissertations & Theses Global, conference proceedings, and clinical trial registries were searched for relevant randomized controlled trials (RCTs) from 2009 to 2019. Two authors then independently screened and selected articles, assessed quality according to Cochrane guidelines, and extracted data. Unfortunately, meta-analysis was not appropriate to perform due to clinical heterogeneity.

Results

A total of 2633 records were screened, identifying three relevant randomized controlled trials involving 325 patients in total. The one study that was critically appraised as least likely biased showed that antibiotic prophylaxis significantly reduced bacteriuria post UDS in female patients. The other two studies included in the review did not. None of the studies included were powered to show a significant change in the incidence of UTI following UDS.

Conclusion

Similar to the 2012 Cochrane review on this subject, this systematic review demonstrates that antibiotic prophylaxis may significantly decrease bacteriuria in women following UDS. However further research is required particularly in female patients to delineate statistical and clinical efficacy, and update guideline appropriately to aid practitioners.