

Incidence of UTI and Stent-related Symptoms in Patients with Peri-interventional Antibiotic Prophylaxis Only vs Low-dose Continuous Antibiotic Treatment among Double J Stented Patients: A Randomised Clinical Trial

PRAMOD JAGADEESH MAKANNAVAR¹, SRINIVAS KALABAVI², REVANASIDDAPPA KANAGALI³, SANGAMNATH BENTUR⁴

ABSTRACT

Introduction: Endourological surgeries like Percutaneous Nephrolithotripsy (PCNL) and Ureteroscopic Lithotripsy (URSL) is the standard of care for upper urinary tract urolithiasis. Placement of Double J stent (DJ stent) is a routine practice, following these surgical interventions. Though endourological surgeries are less invasive, these are not without complications. Main postoperative complications following these procedures, which hamper daily activities are Urinary Tract Infection (UTI) and Stent Related Symptoms (SRS). There is a lack of literature, about appropriate postoperative antibiotic strategy following uncomplicated endourological surgery for upper urinary tract stone disease in patients, who are on DJ stent.

Aim: To evaluate the incidence of UTI and SRS in patients given, a peri-interventional antibiotic prophylaxis only versus a continuous low-dose antibiotic treatment for entire stent indwelling time.

Materials and Methods: This was a randomised clinical study conducted in the Department of Urology, SDM Medical College and Hospital, Dharwad, Karnataka, India from January 2020-March 2021. A total of 70 patients following uncomplicated endourological surgery were randomised, to either receive peri-interventional antibiotic prophylaxis only (group A=31) or low-dose

antibiotic treatment for entire stent indwelling time (group B=39). Randomisation was done to allocate sample into two groups using computer randomisation program. All patients received cefotaxime injection 1 gm at the time of anaesthesia induction as peri intervention prophylaxis. Patients in group B, in addition received nitrofurantoin 100 mg tablet at bedtime for entire stent indwelling time. Patients were evaluated for incidence of UTI and SRSs. Statistical analysis was done using Chi-square and Yates corrected Chi-square for analysis of association between attributes. Independent t-test was used for comparison of two groups with numerical variables.

Results: The incidence of UTI was not significantly different between the two groups {group A- 4 (12.9%) and group B- 6 (15.38%)}. UTI was more common following URSL compared to PCNL {group A 24 (77.42%) and group B 29 (74.36%)}, and more common in those with diabetes mellitus. Similarly the incidence and severity of SRSs was very similar in both the groups {group A 28 (90.32%) and group B 37 (94.87%)}.
Conclusion: According to the present study findings, continuous low-dose antibiotic treatment during entire stent indwelling time does not reduce the incidence of UTI and has no effect on SRSs.

Keywords: Antimicrobial prophylaxis, Endourological surgery, Percutaneous nephrolithotripsy, Urinary tract infection