

Do not use antimicrobial prophylaxis (AMP) before routine transurethral resection of the bladder tumor (TURB)!

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Introduction & Objectives: Evidences about utility of AMP in order to reduce infectious complications resulting from TURB are lacking. Objectives of this study are to determine the frequency of febrile infectious complications after TURB with and without AMP and to asses risk factors for postoperative infectious complications.

Materials & Methods: We retrospectively reviewed clinical data of all patients who underwent TURB in our institution between January 2011 and December 2016. Reviewing all clinical document produced during the in-stay periods we collected data about patient features as AMP, ASA score, preoperative urine culture, indwelling catheter, immunosuppression, diabetes, duration of surgery, length of hospital stay and body temperature. All TURB associated with other procedures, as well as all non-operative cystoscopies were excluded. The end point was incidence of infections defined as a body temperature $>37.5^{\circ}$ sustained for at least 24h and elevation of serum inflammatory markers during the postoperative in stay.

Results: In the period of the study a total of 829 consecutive TURBs were performed. 753 TURB/patients matched the inclusion criteria, 565 (75%) male and 188 women (25%). Median age was 72,5 years (IQR: 67-80). Median operative time was: 27.7 (IQR 15-35) minutes. Median Length of post-operative hospitalization was 3,23 days (IQR 2-4). A total of 31 (4,16%) patients developed an infectious complication. 599 patients did not receive any AMP, 3,7% of patients in this group developed an infective complication. AMP was given to 154 patients and 7,14% of the patients in this group developed an infective complication. A significant correlation between use of AMP and incidence of infectious complications was found ($p:0,034$). Preoperative urinoculture were negative for 664 (88,2%) patients, positive for 72 (9,5%) patients and not disposable for 17 (2,3%) patients. 7,5% of the patients with positive preoperative urinoculture developed an infectious complication versus the 3,6% of patients with negative urinoculture ($p:0,0028$). 158 patients presented BPH, 11 of them developed an infectious complication. BPH was correlated with higher risk of postoperative infectious ($p:0,0429$). Strengths: Data came from the documents produced during the in-stay hospital and could be considered of very good quality. Limitations: AMP is given to patients considered by clinicians at high risk of infectious complications, therefore the comparison of patients with AMP with patients without AMP is inappropriate due to the important selection bias.

Conclusions: To our knowledge this is the biggest series analyzing risk of infectious complications after TURB and the only study that provides a sub-group analysis according to presence of risk factors for post-operative infections. Given our result, the use of AMP before routine TURB seems to be unnecessary.