



# The Novel Method to Reduce Catheter-Related Bladder Discomfort after Transurethral Prostate Surgery

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The catheter-related bladder discomfort (CRBD) to an indwelling urinary catheter is defined as a painful urethral discomfort, resistant to conventional opioid therapy, decreasing the quality of postoperative recovery [1]. The indwelling urinary catheter after transurethral prostate surgeries (TPS), especially transurethral resection of prostate (TURP) and Holmium laser enucleation of prostate, frequently leads to CRBD in the immediate postoperative period. The mechanism of CRBD is mediated by type 3 muscarinic receptor activation, which increases acetylcholine release and then causes the detrusor muscles of the bladder to contract involuntarily [2]. Therefore, agents with anticholinergic, analgesics including tramadol and paracetamol, antiepileptics such as gabapentin and pregabalin, anesthetics including ketamine and dexmedetomidine have been successfully studied for the prevention and treatment of CRBD [2]. Nevertheless, these drugs when administered, generally can cause some side effects

such as facial flushing, dry mouth, blurred vision and sedation.

I have carefully read the article published in Investigative and Clinical Urology by Zugail et al [3], and his findings and conclusions are indeed interesting. This article is one of the few reports which addresses the issue of CRBD. We have encountered few papers regarding this medical condition because, to the best of our knowledge, most of the studies which address CRBD using drugs. Their study including 14 patients with TURP has shown that a 50% reduction of the balloon volume leads to a significant improvement in tolerating the indwelling urinary catheter in terms of 10-point visual analogic scale scores ( $p=0.02$ ) and CRBD grades ( $p=0.04$ ). The reduction of the balloon volume is safe, fast, not expensive, and non-invasive method for reduce CRBD. It is also practical method with lesser side effects when compared to the usage of anticholinergic and other drugs for postoperative analgesia.

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Similar to the authors above, we working on ways to reduce CRBD after TPS. For a long time, urethral catheter traction has been accepted as the most effective way to control postoperative bleeding after TPS. In our opinion, the patients who received TPS suffer from more pain probably due to urethral catheter traction. We felt that spinal anesthesia has a CRBD-reductive effect compared to general anesthesia during the early postoperative hours. Because spinal anesthesia has longer duration of analgesic effect on perineal region compared to general anesthesia. In conclusion, we designed new trial with the hypothesis that spinal anesthesia has a CRBD-reductive effect in early postoperative hours compared to general anesthesia and we hope to publish our new study in World Journal of Mens Health later on.

### Conflicts of Interest

The authors have nothing to disclose.

### Author Contribution

Conceptualization: YSS, ARD, HJP. Data curation: YSS, ARD. Formal analysis: YSS, ARD. Investigation: YSS, ARD. Methodology: YSS, ARD. Project administration: YSS, ARD, HJP. Resources: YSS, ARD. Software: YSS, ARD. Supervision: HJP. Validation: YSS, ARD, HJP. Visualization: YSS, ARD, HJP. Writing—original draft: YSS, ARD, HJP. Writing—review & editing: YSS, ARD, HJP

### REFERENCES

1. Xiaoqiang L, Xuerong Z, Juan L, Mathew BS, Xiaorong Y, Qin W, et al. Efficacy of pudendal nerve block for alleviation of catheter-related bladder discomfort in male patients undergoing lower urinary tract surgeries: a randomized, controlled, double-blind trial. *Medicine (Baltimore)* 2017;96:e8932.
2. Wilson M. Causes and management of indwelling urinary catheter-related pain. *Br J Nurs* 2008;17:232-9.
3. Zugail AS, Pinar U, Irani J. Evaluation of pain and catheter-related bladder discomfort relative to balloon volumes of indwelling urinary catheters: a prospective study. *Investig Clin Urol* 2019;60:35-9.