

Running Title: Novel Method to Reduce CRBD after TURP

Re: Intra-operative Oxycodone Reduced Postoperative Catheter-Related Bladder Discomfort Undergoing Transurethral Resection Prostate. A Prospective, Double Blind Randomized Study.

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DISCLOSURE

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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 during lower urinary tract surgeries, especially transurethral resection of prostate (TURP), 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 Urology Journal by Juncheng et al, and his findings and conclusions are indeed interesting [3]. 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 91 patients with TURP has shown that the incidence of CRBD was significantly lower in the oxycodone group. Oxycodone can effectively prevent patients with CRBD after TURP without incurring serious adverse effects.

Similar to the authors above, we working on ways to reduce CRBD after TURP. For a long time, urethral catheter traction has been accepted as the most effective way to control postoperative bleeding after TURP. In our opinion, the patients who received TURP 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.

REFERENCES

1. 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.
2. Wilson M. Causes and management of indwelling urinary catheter-related pain. *Br J Nurs* 2008;17:232–9.
3. Juncheng X, Xiang C, Chengwei W, Shuqun L, Jian L. Intra-operative Oxycodone Reduced Postoperative Catheter-Related Bladder Discomfort Undergoing Transurethral Resection Prostate. A Prospective, Double Blind Randomized Study. *Urol J*. 2019 Jan 5. [Epub ahead of print]