Author's response to reviews

Title: Pain and satisfaction during rigid cystoscopic ureteral stent removal: A preliminary study

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Author's response to reviews:

To Reviewer#1
1. If authors intended to use midazolam or propofol as a moderate sedation method, these methods have common purposes. Please describe the details more about the study design why authors used two control groups: midazolam group and propofol group.

# According to our pilot study (Reference 6), although midazolam showed better satisfactory result, it still induced pain. This is the reason why we have adapted moderate sedation with propofol.

2. Moderate sedation is a key method for outpatient department procedure because it enables earlier safe discharge. Authors have to describe about the method how the moderate sedation was kept and also about any effort not to be kept in severe sedation.

# We have achieved the optimal BIS level for achieving moderate sedation. BIS (bi-spectral index) monitoring reflecting the moderate sedation during endoscopy is 80-85. BIS with moderate sedation is already showed validity in several studies. (Clin Pharmacol Ther. 1997;61:45–58, Gastrointest Endosc. 2000;52:192–196).

Reviewer#2
Ureteric stents are undoubtedly a significant cause of morbidity while in situ. Whilst there are different options for removal, they are usually removed under local anaesthetic with the aid of a flexible cystoscope. This is an uncomfortable procedure and a proportion of patients seem to get fairly severe pain afterwards which may be attributable to ureteric spasm. The pain at stent removal has not been well reported in the literature. In this issue of this article presents a
randomised controlled trial of a propofol to dramatically reduce pain and increase satisfaction at stent removal.

This beautifully simple study had simple aims: to determine the incidence of pain at stent removal and whether this could be reduced using midazolam of propofol before the procedure. In a prospective randomised controlled trial, the authors have shown a clear advantage to the use of active midazolam or propofol. Using a visual analogue scale (VAS) the mean pain after stent removal was 5, and 0 in the midazolam and propofol group compared with 8.0 with control. More impressively the scale of patient satisfaction at stent removal was 3 and 5 vs. 1. Therefore, authors recommended procedures utilizing moderate sedation with midazolam or general anesthesia using propofol. However, I concerned about one aspect.

1. In pain scale, control group show high pain (VAS score: 8). However, other studies it is not high, therefore authors need to further comment about that.

# The main differences of our study compared with those relevant studies is that our enrolled patient is somewhat younger and usage of rigid cystoscopy. Moreover those studies are not designed to measure the pain degree of cystoscopic removal rather to measure other discomfort such as stent indwelling.

Review#3
Authors have done a notable clinical trial which has been less focused by many urologists. Manuscript was written clearly and also outcome measurements were reasonable.

I have a few comments for authors.
First, why the authors did not perform the procedure with flexible cystoscopy. Second, Authors have to clear about the main outcome. I am not sure whether the main outcome is post operative satisfaction or feasibility and safety of the procedures by propofol or comparison of cost effectiveness.
Moreover, If authors wanted to describe about the safety and effectiveness of sedation drugs, more detailed method have to be stated in the method or discussion.

# In real practice, flexible cystoscopy has not widely equipped. Moreover, in our previous pilot studies, flexible cystoscopy also induces moderate pain. The main issue of our study is that we have focused this issue first because to date, no other studies about this issue has been documented.

# For safety issue of propofol, we made great effort to use minimal dose of propofol under monitoring by BIS to keep moderate sedation.