CYSTOSCOPY AND TURT USING SEDOANALGESIA. EXPERIENCE IN 398 PATIENTS

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ABSTRACT

Objective: To verify the efficacy, cost effectiveness, results and any possible implication by using sedoanalgesia rather than conventional types of anesthesia in diagnosis and treatment of hematuria and bladder tumors.

Methods: The study entailed 398 patients with suspicious hematuria between 1995 and 2001. Bladder tumor was diagnosed in 173 where transurethral resection of tumor was performed. One hundred and twenty two of them kept having regular check cystoscopy. Intraurethral Xylocaine jelly, submucosal infiltration to the bladder wall using local anesthetic (Xylocaine and Marcaine), and intravenous pain and anxiety relieving medication (Sedoanalgesia) were used instead of conventional anesthesia.

Results: Seventy percent of the interventions were performed using sedoanlgesia in 835, out of 1190 interventions in total. Seventy-one percent of the patients tolerated that type of intervention, no specific complication, and with a high degree of satisfaction and acceptance.

Conclusion: Using sedoanalgesia is a good, safe, cost effective method of urological intervention, mainly for bladder tumor due to the special characteristic of this disease, namely the need for repeated interventions.

Keywords: Transurethral resection, Sedoanalgesia, Alfentanil, Midazolam, Endoscopic needle.

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Introduction

Intravenous sedoanalgesia has been described as a safe and cost-effective alternative to general or regional anesthesia [(1)], and it has facilitated the performance of a number of minimally invasive urological procedures. Not many reports were encountered in support of this method, but some strongly advocated this practice, especially after Engberg described the first endoscopic needle (1983), and the description of transurethral resection of tumor (TURT) and other urological procedures under sedation and local anesthesia [(2,3)].

Since 1995, we performed cystoscopy with or without TURT routinely without general or regional anesthesia. The results of this study carried out between 1995 and 2001 are presented.

Methods

Preoperative preparation:

The patients were prepared as in any other procedure that requires general anesthesia, Lignocaine jelly was delivered into the urethra, and the penis was clamped half an hour before admission to the operation room.

Cystoscopy with or without TURT:

Using a 17F cystoscope, lignocaine jelly was delivered into the urethra after scrubbing and draping the bladder. The prostate and both ureteric orifices were inspected and evaluated. If a bladder tumor was diagnosed, or in case of recurrence in check cystoscopy, local anesthesia in the form of 15 ml of Lignocaine 2% without adrenaline and 5 ml of Marcaine 0.5% was injected using a locally designed endoscopic needle (done by fitting an 18-G needle onto size 6 retrograde catheter).

The injection is in form of 1-ml bolus doses, through the endoscopic needle around the tumor to the four quadrants one-cm apart from the tumor. The injection is just underneath the mucosa. Resectoscope 24F is used to perform TURT.

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Intravenous analgesia:

An anesthetist attended the entire treatment. The patient was given 0.01 mg/Kg bolus dose of midazolam intramuscularly half an hour before admission to the operating room. This quick acting anti-anxiety drug aimed to relieve anxiety and to induce amnesia, it is contraindicated in respiratory depression, chronic pulmonary insufficiency, and chronic psychosis. Flumazenil as an antidote that must be always available. Alfentanil (0.5 mg/ single dose) was used as an analgesic, this is a synthetic morphine derivative, it does not influence blood pressure, and the only potential risk is respiratory depression. It is contraindicated in obese patients, who have decreased oxygen saturation. As alfentanil is a short acting drug (half time is 3-20 min), the dose may be given if the procedure is prolonged in order to keep the patient pain free. Monitoring includes recording of blood pressure, ECG, and continuous administration of oxygen together with observation of oxygen saturation.

Patients were treated by this method if they met the following criteria:

1. The bladder tumor was not expected to be so big or multiple depending on U/S estimate.
2. The patient had no psychological disorder.
3. The patient had no restrictive airway disease.
4. The patient did not refuse treatment under Intravenous sedoanalgesia.

Subject to their agreement, cystoscopy with or without TURT was offered to all patients.

Results

Between 1995 and 2001, 1416 procedures were performed; the following will illustrate the details:

Initial cystoscopy to diagnose the cause of bleeding was performed in 398 patients. Ninety-three patients (23%), were either started with general anesthesia (71), or converted to general anesthesia (22), as 14 patients did not tolerate. While in the other 8 patients the tumor was so big or the location of the tumor was so difficult to be accessed under sedoanlgesia only (tumors at bladder neck between 11-1 o'clock. Tumor was diagnosed in 173 patients.

Of the 173 patients who were diagnosed to have a bladder malignancy, 122 patients went through the regular check cystoscopy; the others were out mostly because they received other treatment modalities as radical surgery, or because they did not follow up.

One thousand and eighteen cystoscopy procedures were offered to the 122 patients who were regular with check cystoscopy, an average of 7 times per patient.

In total the number of the cystoscopy procedures that have been performed to the tumor patients were 1191. Of them 356 were under general anesthesia (30%), and 835 were done using sedoanalgesia (70%).

Thirty-four patients used to have check cystoscopy under general anesthesia (28%), while the patients who remained satisfied by cystoscopy using sedoanalgesia were 88 patients (72%). Those patients were asked whether they preferred to have the operation under general anesthesia or using sedoanalgesia, and they preferred the latter.

Most of the patients who received sedoanalgesia remained quiet during the procedure, and tolerated it well, and the anesthetist evaluated the level of analgesia during the procedure. In order to evaluate pain and anxiety properly, the patients were instructed preoperatively on how to answer questions about the verbal rating scale, and that was evaluated and interpreted later on. Scores of (0), (1), (2), and (3) are given for no pain, mild pain, moderate pain, and severe pain, respectively, and the conversion was in patients who scored (3). In addition to the pain, other aspects were addressed, the possibility of tumor implantation due to the anesthetic injection, the rate of tumor recurrence, the rate of infection, the average weight of the resected tumor, and any unexpected complication that are not usually encountered by using general anesthesia.

On adopting this policy, we managed to increase the percentage of patients treated as day case from 12% to 29%. The impact of this in reducing the waiting lists size and the financial and social implications are self-evident. The potentials of day case surgery in reducing waiting lists have been referred to by others [(4)].

Discussion

Bladder tumor and hematuria remain to be one of the common problems facing the urologists all over the world. The nature of this disease makes it mandatory to look for a minimally invasive way to do repeated check cystoscopies [(1,5)], pointed out the possibility of using sedoanalgesia in performing cystoscopy with or without TURT. It is easy to argue that using general or regional anesthesia will be more comfortable to the patients and the surgeon, on the assumption that the patient movement and stress will make the procedure hazardous, though in our experience no specific complications have been observed related directly to this procedure. Unfortunately, no data are available to compare with. However, it is worthy to discuss the following notes:

- No increase in the recurrence rate was noticed in patients who were treated using sedoanalgesia. We usually attributed this to either incomplete resection of the tumor, or inability to recognize a tumor, especially if it was located in a difficult site to be seen, we used to notice if the tumor was located in a proximity to the scar to predict whether it may be due to injection or not.
- No fluctuation of blood pressure was noted by using IVA and no change in oxygen saturation. Where this is usually noted in patients receiving general or regional anesthesia, that is not only important for the safety of the patient, but it helps in ensuring homeostasis, and reducing bleeding,

especially when arousing the patients from general anesthesia.

- No increase in infection rate as would be expected due to multiple injection, the septic complication as 2% and 2.2% in patients operated under general and sedoanalgesia, respectively.
- The cost is less, as no anesthetic drugs or gases were used, recovery time is much less, and the time of OR time is much less. Estimated cost is 150 JD in sedoanalgesia compared to 240 in general anesthesia.
- The average weight of the resected tumor was almost the same in both groups of patients, 4.1 grams in both.
- This method is more superior to cystoscopy using a flexible cystoscope, as it allows better diagnostic and resection options than the flexible cystoscope.
- Twenty nine percent of the cases were done as outpatients, compared with 9% of patients under general anesthesia.

Conclusion

Cystoscopy with or without TURT can be successfully accomplished without general or regional anesthesia in about 72% of patients. The therapeutic result is similar to that under general anesthesia. The procedure is well tolerated by most of the patients. No increased risk of infection or any other procedure-related complications were noted. However, our experience does not suggest that general or regional anesthesia should be omitted, as still there are criteria to be fulfilled in patient selection. Proper patient selection and the experience of the urologist are the major factors in determining success.

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