

SEDOANALGESIA FOR DAY CASE UROLOGICAL PROCEDURES — A VIEW

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SUMMARY

A prospective study was undertaken to evaluate the efficacy of sedoanalgesia in 56 patient undergoing various urological procedures as diagnostic cystoscopy, bladder biopsy, ureteral retrograde catheterization and urethral dilatation. Sedoanalgesia was administered by giving, intravenous midazolam, intramuscular diclofenac sodium, xylocaine gel 2% as topical anesthetic. The efficacy of sedoanalgesia technique was evaluated by measuring the pain score determining the prevalence and duration of amnesia during the procedure and by measuring haemoglobin oxygen saturation using pulse oximetry. The result of this study proved that diagnostic cystoscopies in all groups and in both sexes were uneventful, however with urethral dilatation , results were less satisfactory and further studies are needed possibly using low dose ketamine or propofol along with Midazolam.

INTRODUCTION

Day case ambulatory surgery is becoming popular. It affords shorter hospital stay and lesser morbidity as compared to patient undergoing similar procedures under general anesthesia. Today almost sixty percent of all elective surgery is performed in out patient surgical settings.¹ As the patients are ready to leave for home soon after their operation, specialized skill are needed both for anesthesia and surgery to meet the needs of these patients.

Sedation during local anesthesia is desirable to lessen the anxiety and fear associated with the operating room activity and preparation. Studies have shown that patients prefer surgery under local anesthesia with sedation, to local anesthesia alone.²

Benzodiazepines are the most popular drugs used for anxiolysis, amnesia and sedation. It has been demonstrated that midazolam produces more profound amnesia and sedation than diazepam.³

The overall objective is to develop a safe, comfortable and cost effective technique of sedoanalgesia for urological procedures which can be easily used in our hospital settings.

MATERIAL AND METHODS

Fifty-six patients were selected for this study, of which 37 were male and 19 female. These patients met the American Society of Anesthesiologists (ASA) I and II criteria. The procedures selected for studying the effect of sedoanalgesia are shown in (Table-I).

TABLE - I
PROCEDURES

Procedures	Number of patients
A) Diagnostic Cystoscopy	32
B) Cystoscopy/Bladder biopsies	10
C) Cystoscopy + Ureteral Catheterization	4
D) Urethral dilatation	10

Selection Criteria

1. Patients meeting the American Society of Anesthesiologists (ASA) scores I and II
2. Patients willing to undergo surgery with sedoanalgesia technique.

Exclusion Criteria

1. Patients meeting American Society of Anesthesiologist (ASA) scores III and IV.
2. Patients with impaired renal function as exhibited by elevated serum creatinine levels.
3. Patients with ischemic heart disease or cardiac arrhythmias.
4. Patients unwilling to undergo surgery with sedoanalgesia.

These procedures were carried out using sedoanalgesia employing intravenous Midazolam in a titrating dose. An initial dose of 2.5mg was used with incremental dose of 1mg as necessary up to a total dose of 5mg. In patients over the age of sixty the initial dose was reduced to 1.5mg with incremental doses as stated above. Diclofenac Sodium as an analgesic was given intramuscularly thirty minutes before the procedure; Xylocaine gel 2% was used as a topical anesthetic agent five to ten minutes before the procedure.

The total effect of this form of sedoanalgesia for the above mentioned procedures was interpreted by means of measuring the following.

- a. Pain
- b. Amnesia^{5,6}
- c. Partial pressure of oxygen as measured by pulse oximetry.

Pain

Pain was measured from the time of intravenous administration of the drug until the patient regained full consciousness. Pain

was measured using Pakistan Pain Coin Scale –PPCS. In this technique the patient is asked to interpret his pain when given 100 paisas of a rupee, at 15 minute intervals until the patient recovers completely.

Amnesia^{5,6}

Amnesia was measured from the time of intravenous administration of Midazolam until the full recovery of the patient. Different familiar objects were shown to patient from zero minutes to one hour in fifteen minute intervals. Patients were asked to recall as many objects as possible shown to them during the period of observation.

Oxygen haemoglobin Saturation⁴

Oxygen Haemoglobin Saturation was measured through the perioperative period using pulse oximetry.

RESULTS

Diagnostic cystoscopies were carried out in 32 patients and cystoscopies/retrograde catheterization were carried out in four patients. These procedures using sedoanalgesia were completely painless, patients had total anterograde amnesia. None of these patients showed any signs of hemoglobin desaturation on pulse oximetry.⁴ Cystoscopies with bladder biopsies were undertaken in ten patients. Two patients in this group experienced pain (25 paisas on Pakistan Pain Coin Scale) and recalled the procedure through identification of objects used to measure amnesia. Urethral dilations were performed on ten patients, four patients registered having experienced pain (45 paisas on Pakistan Pain Coin Scale) and could recall the event of instrumentation causing pain, however none of the patients showed any sign of drop in hemoglobin saturation of oxygen. Patients in all three groups mentioned above regained complete recovery as regards haemodynamic stability, full alertness, without confusion or concentration difficulties within three hours of procedures.

DISCUSSION

Increasing number of patients are being admitted to urological units for endourological procedures, being carried out under general anesthesia. The present trial was undertaken to see if a section of patients who would normally be admitted for an overnight stay, can be dealt with as day cases using sedoanalgesia.

Procedures undertaken during the course of this study included; diagnostic cystoscopies, and bladder biopsies, retrograde ureteral catheterizations and urethral dilations. A total of 56 patients were employed in this study who fulfilled American Society of Anesthesiologists (ASA) I and II criteria. Patients in American Society of Anesthesiologist (ASA) III and IV were excluded from the trial.

On analyzing the results, it becomes apparent that sedoanalgesia is a safe technique for a number of urological procedures, as it provides a painless period in which patients are unable to recall. Moreover patients are able to return home after fulfilling the discharge criteria for day case surgery. Pain was experienced in 40% patients undergoing urethral dilatation, stressing the need for further trials with more effective agents than Midazolam, like Ketamine, Propofol with possibly stronger analgesics such as narcotic analgesic agents.

In view of increasing number of patient posing a significant load on in patient admissions to acute urological beds, there is an obvious need to employ sedoanalgesia in order to reduce in-patient admissions. This form of anesthesia will help reduce the morbidity of patient who otherwise would have undergone general anesthesia.

CONCLUSION

Sedoanalgesia for endourological procedures using IV Midazolam, IM Diclofenac Sodium and topical Xylocaine gel has

proved to be a safe procedure without any significant complications.

However results of using this form of anaesthesia for urethral dilatation were less satisfactory. In view of the above study it is safe to use Midazolam as part of sedoanalgesia for majority of day case urological procedures.⁸

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