

POST OPERATIVE URINARY RETENTION IN GENERAL SURGICAL WARD

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ABSTRACT

Two hundred and fifty consecutive patients who had undergone surgery under spinal and general anaesthesia were studied prospectively to determine the incidence of post-operative urinary retention. The sex and age of the patient did not affect the incidence of retention of urine. The use of long acting spinal anaesthetics and over enthusiastic treatment of post-operative pain with strong narcotic analgesics may be the important factors in post operative urinary retention.

KEY WORD: Post operative urinary retention

INTRODUCTION

Acute urinary retention is a common post operative problem. There is a significant release of catecholamines with general and spinal anaesthesia, as well as with pain and stress. Catecholamines stimulate alpha adrenergic receptors in the smooth muscles of bladder neck and urethra which in turn increases the bladder outlet tone and urethral resistance. This factor is prevailing in all patients. The increased standard of management of post operative pain and keeping patient sedated, losing the awareness of bladder distention is another factor for the development of urinary retention. The use of

hyperbaric spinal anaesthetics has replaced the cinchona, which have prolonged effect and it may be another factor in post operative urinary retention.

PATIENTS AND METHODS

A total number of 250 consecutive patients, operated in our surgical ward were studied between 15-9-1999 to 15-08-2000. Patients of all ages and of both sexes were included. Patients who had a previous history of urinary problem were excluded. Similarly only those patients were included who did not have indication of urinary bladder

catheterization. Surgery was undertaken under spinal and general anaesthesia. Spinal anaesthesia was given with 0.5% bupivacaine. General anaesthesia was given with standard method. We routinely use Ringer Lactate peri-operatively and inj. Nalbuphin 2 mg I/V six hourly as post operative pain killer. The urinary bladder was catheterized only when it was distended and patient was uncomfortable. We standardized the retention of urine in all those in whom catheterization yielded 500 cc or more of urine.

RESULTS

Fifty two out of 250 patients [21%] had urinary retention in this study. Thirty two were male and 20 were female. Thirty four out of 125 patients were operated in spinal anaesthesia [27%] whereas 18 out of 125 patients had general anaesthesia, [14%]. The patient who were operated under spinal anaesthesia had anal fissure, fistula in ano, haemorrhoids, anorectal abscess and pilonidal sinus (table 1).

Table-1 Type of benign rectal diseases in patients operated under spinal anaesthesia

Disease	No of patients	% age
Haemorrhoids	42	34%
Anal Fissure	32	26%
Anal Fistula	35	27%
Anorectal abscess	12	10%
Pilonidal sinus	4	3%
Total	125	100%

The patients who were treated under general anaesthesia, the commonest disease was acute appendicitis as shown in (table 2) which describes the disease pattern of the patients treated under general anaesthesia and developed urinary

retention. 40 patients were of more that 50 years of age. So the highest incidence was elderly patients. All patients received more than 1000c.c of Ringers Lactate peri-operatively.

Table 2 Type of diseases in patients operated under general anaesthesia.

Disease	No of patients	% age
Acute appendicitis	75	60%
Inguinal Hernia	25	20%
Para umbilical hernia	25	20%
Total	125	100%

DISCUSSION

Urinary retention is a common post operative problem. It can occur after any operation but seen more frequently in patients who undergo inguinal hernia repair and anorectal surgery for benign diseases. The incidence of urinary retention after surgery for benign anorectal diseases varies from 0-21%^{1,2}. The correct pathogenesis in urinary retention in such cases is not clear. Massive endogenous catecholamine release is associated in both general as well as spinal anaesthesia. Moreover post-operative pain and a stress response to operative trauma also causes endogenous release of catecholamine. It has been postulated that urinary retention occurs due to catecholamine stimulation of alph-adrenergic receptors in the smooth muscles of bladder neck and urethra, which in turn increases the urethral resistance and inhibition of activity of detrusor muscle of bladder by distention of anal canal and pain may be the factors responsible for it⁴.

The incidence of urinary retention in males is almost double then in females⁵. This may be due to borderline or overt benign prostatic hypertrophy, past history of urethral trauma or urethritis and

early catheterization. We delayed the catheterization until bladder was not palpable or patient was not uncomfortable. The incidence of urinary retention decreases from 49% to 20% when catheterization was delayed².

The affect of peri-operative administration of large amount of I/V fluids is one of the cause of post-operative urinary retention⁶. There was no post-operative urinary retention in the patients who had undergone haemorrhoidectomy as long as the amount of fluid administered per-operatively was restricted. We have not studied this factor in detail in this study but we think that in our hot and humid climate patients are in considerable fluid deficit so this may not be an important factor in our area of world.

High incidence of post-operative urinary retention has been reported in patients receiving long acting anaesthetic agent for spinal anaesthesia⁷. This is very important factor so in operation theater inj. Cinchocaine has been totally replaced by Inj. Bupivacaine.

This study concludes that prolonged effect of spinal anaesthesia after surgery causes loss of awareness of urinary bladder distention, leading to retention⁸.

Inj. Morphine is not freely available now a days. Inj. Nalbuphine HCL is used post-operatively as pain killer. The analgesic effect of nalbuphine is equal to morphine but is of longer duration. Unfortunately the narcotic effect of nalbuphine is 10 times more than pentazocine. This pharmacological effect especially in elder patients keeps them in sleep for half of the day resulting in serious consequences. Further scientific random case controlled studies are required to prove this fact.

We further conclude that inadequate understanding of the factors contributing to urinary retention after surgery can lead to incorrect management. Decision of catheterization should not be made hastily, but once urinary bladder is palpable, patient should not be left in agony. We do not try drugs like Bethanecol⁹. Some good replacement of long acting spinal anaesthetic should be found. Fluid restriction in winter can provide extra benefit. Careful use of post-operative analgesic like nalbuphine HCL in selective cases can reduce the number of post-operative urinary retentions.

REFERENCES

- 1 Prasad ML, Abcarian H. Urinary retention following operations for benign anorectal diseases. *Dis colon rectum* 1978; 21:490-2.
- 2 Salvati EP, Kleckner MS. Urinary retention in anorectal surgery. *Am j surg* 1957; 94: 114-17.
- 3 Rankin JT. Urological complications of rectal surgery. *Br. J. urol.* 1969; 41:655-9.
- 4 Pompeious R. Detrusor inhibition induced from anal region in man. *Acta chir scand (suppl)* 1966; 361: 1-54.
- 5 Crystal RF, Hopping RA. Early post operative complication of anorectal surgery. *Dis colon rectum* 1974;17: 336-41.
- 6 Scoma JA. Catheterization in anorectal surgery. *Arch surg.* 1975; 110:1506.
- 7 Hodsman NBA, Kelley GNC, McArdle CS. Patient controlled analgesia and urinary retention. *Br. G. Surg* 1988; 75:212.
- 8 Stallard S, Prescott S. Post operative urinary retention in general surgical patients. *Br. J Surg.* 1988; 75:1141-3.
- 9 Eftaiha MS, Amshel AL, Shonberg IL. Comparison of two agents in prevention of urinary retention after benign anorectal surgery. *Dis colon rectum* 1980; 23:470.-72.