



## Post Subarachnoid Block Urinary Retention: Case Study

Authors

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### Introduction

CSF was discovered by Domenico Catugno in 1764. First spinal anesthesia was given by J Leonard Coming in the year 1885. First planned spinal analgesia was given by August Bier on 11th August 1898. Local anesthetic solution injected into the subarachnoid space blocks conduction of impulses along all nerves with which it comes in contact, although some nerves are most easily blocked than others. Stimulation of motor nerves causes muscle paralysis. Generally autonomic and sensory fibers are blocked before motor fibers. Local anesthetic interacts with the receptors situated within the voltage sensitive sodium channels and raises the threshold of channel opening thereby decreasing the entry of sodium ions during upstroke of action potential. Local depolarization fails to reach the threshold potential and conduction block ensues. Intrathecal local anesthetics act on the neurons of the sacral spinal cord segments (S2–S4) by blocking the transmission of the afferent and efferent action potentials on the nervous fibers from and to the bladder. The detrusor contraction (detrusor block)

is completely abolished 2–5 min after the injection of spinal anesthesia, and its recovery depends on the duration of sensory block above the S2 and S3 sacral segments. Fifteen minutes after the level of analgesia regressed to L5 or lower (S2–S3), the strength of detrusor starts to return to normal values, allowing the patient to void. Complete normalization of detrusor strength occurs 1–3.5 h after ambulation. Several studies have been conducted to study the risk factors for post subarachnoid block urinary retention.

### Aims and objective

To study the percentage of patients developing urinary retention post subarachnoid space block and its treatment modalities bedside.

### Materials and Methods

This Prospective Study was conducted in Katihar Medical College, Katihar by the joint effort put up by the Department of Anesthesia and Department of General Surgery. The duration of the study was from January 2017 to January 2018(1 year). The drug given for spinal anesthesia was Bupivacaine

heavy. 50 patients who underwent surgery under spinal anesthesia in the main OT in the department of general surgery were considered randomly. Duration of waiting time was 6-8 hours post-surgery for the patient to pass urine spontaneously. Follow up was done every 2 hours. The data was collected on specific proforma and was analyzed by SPSS version 11. Inclusion criteria were patients above 15 years of age undergoing spinal anesthesia with no previous complain of urinary retention. Exclusion criteria were patient terminally ill, previous history of urinary retention, previous history of urethral injury or urethral surgery and patient below 15 years. Also the patients with BPH were excluded.

## Results

### Sex distribution

Sex	Number	Percentage
Male	35	70%
Female	15	30%
Total	50	100%

### Age Distribution

Age in years	Number	Percentage
15-30	5	10%
30-50	35	70%
50 and above	10	20%

### Complication

Post operative	Number	Percentage
Urinary retention	14	28%
No urinary retention	36	72%

### Treatment

Treatment of retention	Number	Percentage
Washing feet under running tap water	8	57.11%
Red rubber catheter for draining of urine	6	42.89%

### Discussion

Complications of subarachnoid space block have been in discussion since long and many studies have been done. We, in our study, have taken into account only the complication of urinary retention post spinal block. Study showed that out of 50 patients 35 were male and 15 were female patients. 5 patients were between the age group of

15-30 years and 35 patients in the age group of 30-50 years and 10 patients were above 50 years. 14 out of 50 patients developed urinary retention post spinal anesthesia. In 8 patients, out of the 14, the symptoms resolved by washing the feet of patients under running tap water. 6 patients, who still complained of urinary retention after running tap water, red rubber catheter was used to drain urine.

### Conclusion

Around 70% of the patients were in the age group of 30-50 years. 72% of the patients did not develop any complication post spinal block for surgery and passed urine on their own without any intervention. 28% developed urinary retention. 57.11% patient's symptoms were relieved by washing feet under running tap water. 42.89% had persistent complain of urinary retention even after washing feet for which red rubber catheter was placed to drain the urine and the catheter was removed immediately.

### References

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