WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 7.523
Volume 6, Issue 03, 1499-1504. Case Report ISSN 2277– 7105

ANAESTHETIC MANAGEMENT OF A PATIENT WITH SEVERE KYPHOSCOLIOSIS POSTED FOR TRANSURETHRAL RESECTION OF PROSTATE (TURP)

[1]Dr. Kirti Kamal, [2]Dr. Hemant Kamal, [3]Dr. Sumedha Vashishth*, [4]Dr. Geeta Ahlawat, [5]Dr. Rajmala Jaiswal and [6]Dr. Parul Jain

[1,4,5]MBBS, MD (Anaesthesia), Professor, Department of Anaesthesia, Pt. B. D. Sharma PGIMS, Rohtak, Haryana, India.

[2]MBBS, MS (General Surgery), Mch (Urology), Professor, Department of Urology, Pt. B. D. Sharma PGIMS, Rohtak, Haryana, India.

[3,6]MBBS, Junior Resident, Department of Anaesthesia, Pt. B. D. Sharma PGIMS, Rohtak, Haryana, India.

Article Received on
17 Feb. 2017,

Revised on 21 Feb. 2017,
Accepted on 26 Feb. 2017

DOI: 10.20959/wjpr20173-8047

***Corresponding Author**
Dr. Sumedha Vashishth
MBBS, Junior Resident,
Department of Anaesthesia,
Pt. B. D. Sharma PGIMS,
Rohtak, Haryana, India.

ABSTRACT

Spinal anaesthesia is the technique of choice in Transurethral Resection of Prostate (TURP) but in patients with severe kyphoscoliosis spinal anaesthesia may be difficult and can result in incomplete or inadequate block. We bring forth the case of 72 years old male patient with severe kyphoscoliosis posted for TURP under saddle block. Although saddle block is not a popular technique for TURP but it sets up quickly, paralyses pelvic muscles and sacral nerve roots and height of block is less. So there is less chance of hypotension and vasopressor requirement. We present this case of highlight the importance of saddle block in patient with severe spinal deformity.

KEYWORDS: Transurethral Resection of Prostate (TURP), kyphoscoliosis, Saddle block, Spinal anaesthesia.

1. INTRODUCTION

Transurethral Resection of Prostate (TURP) is the most common surgical procedure performed for symptomatic Benign Prostatic Hyperplasia (BHP). Spinal anesthesia is the preferred technique for TURP. In patients with kyphoscoliosis spinal anesthesia may be

technically difficult and results in failed or incomplete block. We herewith present a case report of a patient with severe thoracolumbar kyphscoliosis posted for TURP.

2. CASE REPORT

A 72 year old patient weighing 60 Kg, with benign hyperplasia of prostate was posted for TURP in elective operation theatre. The patient was short statured with severe kyphoscoliosis and rotation of the thoracolumbar spine which was progressive since birth [Fig 1]. The pelvis was also tilted and rotated, so the patient could not lie supine. There was no history of trauma or tuberculosis and no history of chronic medical illnesses. No other significant history except history of dyspnoea on exertion was present. The patient was able to do his daily activities easily. The X ray of the thoracolumbar spine showed marked kyphoscoliosis with rotation of the spine and pelvis [Fig. 2]. The Cobb's angle was greater than 120 degrees. Laboratory investigations were within the normal limits. Pulmonary function tests were indicative of restrictive lung disease (FVC- 43%, $FEV_{1,}$ 56% and FEV_1/FVC 135%). The patient was Mallampatti Grade I and thyromental distance was 7 cm. The patient was administered tab. alprazolam 0.25 mg at bedtime and kept nil per orally 6 hours prior to surgery. In the operating room, intravenous cannulation was done using 18G IV cannula and routine monitors for ECG, NIBP, SPO_2 and pulse rate were applied.

With informed written consent of patient we planned to conduct the procedure under saddle block with instillation of lignocaine gel into the bladder. With the patient in sitting position, tracing from below upwards, the L3-L4 intervertebral space was identified. Lumbar puncture was done using a disposable 25G Quincke's spinal needle in a single atraumatic attempt and free flow of clear CSF was obtained [Fig 3]. Spinal anesthesia was administered by injecting 1.4ml of 0.5% hyperbaric bupivacaine into the subarachnoid space and the patient was kept sitting for 10 minutes. He was then laid supine after checking perianal anesthesia. Lignocaine jelly 2% (5 ml) instilled into the bladder per urethrally and a penile clamp applied for 5 minutes. The surgery started after 5 minutes and lasted for 40 minutes. The patient was comfortable during perioperative period. The rest of the post operative period was uneventful.

FIGURES

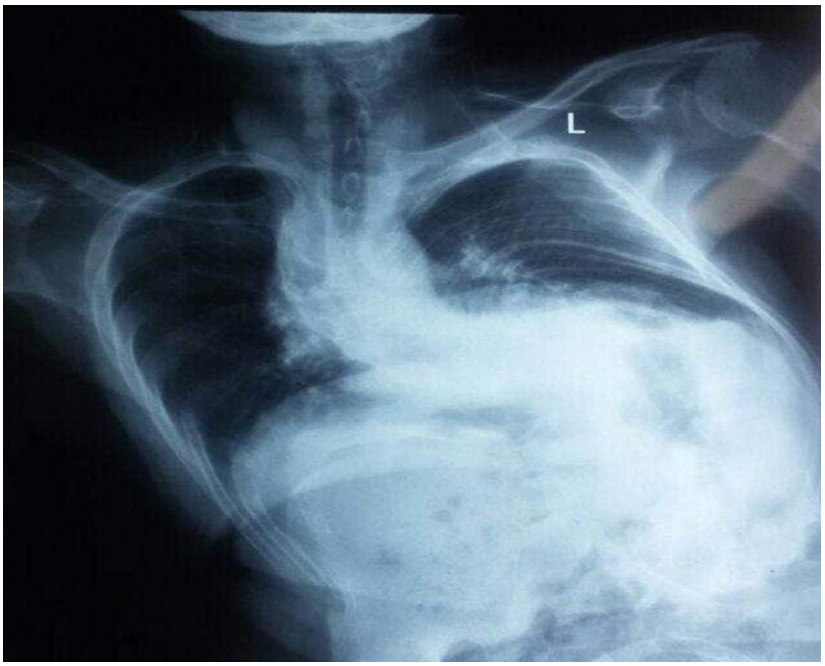

Fig 1: Clinical photograph of the patient in sitting position showing hump on the left side of spine with severe kyphoscoliosis

Fig 2: Chest and upper abdomen radiograph PA view showing severe thoracolumbar kyphoscoliosis.

Fig 3: Clinical photograph of the patient in sitting position showing lumbar puncture at L3-L4 intervertebral space.

3. DISCUSSION

The nerve supply to the prostate arises from prostatic plexus, which originates from the inferior hypogastric plexus, and carries both sympathetic fibres from T_{11}- L_2 and parasympathetic fibres from S_2- S_4. Pain fibres from prostate, prostatic urethra and bladder mucosa originate primarily from sacral nerves S_2- S_4. Pain signals from bladder distension travel with sympathetic fibres and have their origin in T_{11}- L_2. The sensation of stretch in bladder (proprioception) is carried by the parasympathetic fibres of S_2– S_4. Considering this innervation, height of subarachnoid block up to T_{10} is sufficient for TURP operation.[1]

Transurethral resection of the prostate (TURP) is the most common surgical intervention for patients with benign prostatic hyperplasia. Spinal anesthesia is the technique of choice in TURP. Regional anesthesia offers several advantages over general anesthesia for TURP. The amount of blood loss during the surgery is reduced and less incidence of deep vein thrombosis (DVT) is observed with regional anesthesia when compared with general anesthesia.[2-4] The signs and symptoms of fluid overload and accidental bladder perforation are also recognised early as patient is awake. During the surgical procedure, there are chances of circulatory overload due to excessive absorption of irrigation solution through open prostatic venous sinuses. [2] Lithotomy position increases venous return which may further compound the situation. TURP patient are particularly vulnerable to volume overload as most

of them belong to elderly age group and suffer from cardiopulmonary disorders. Spinal anesthesia reduces chances of circulatory overload as sympathetic blockade leads to peripheral pooling of the blood.[2] With epidural anesthesia there is a chance of sacral sparing which may produce incomplete sacral nerve root block leading to inadequate surgical anesthesia.[2] General anesthesia is not a preferred choice in these patients due to difficulty in airway management, cardiovascular and pulmonary complications. We did not plan general anesthesia as there was severe restrictive lung disease in our patient.

Lumbar puncture is difficult to perform in patients with kyphoscoliosis because there is distortion of spinous process and rotation of the vertebral column makes identification of intervertebral space difficult.[5] Moreover, distortion of spine can lead to failed inadequate or unilateral block when hyperbaric bupivacaine is used. In our patient we apprehended inadequate sacral nerve root block as the patient couldn't lie supine and the pelvis of the patient was also tilted and rotated. Similar to our case G. Ozyurt et al. reported inadequate unilateral block in a patient with severe kyphoscolosis who couldn't lie supine.[6] Hence we choose Saddle block. Saddle block blocks the sacral nerve roots and relaxes pelvic muscles. As lower level of block is achieved, the hemodynamic derangement and chance of circulatory overload is less.[2] Hence, Saddle block is more selective form of spinal anaesthesia. Our patient didn't complain of bladder distension as pre-operatively we had instilled 2% lignocaine jelly. The patient was comfortable throughout the surgery and surgeon had no difficulty in performing the procedure.

4. ETHICAL APPROVAL

Ethical clearance was taken from the university ethical committee.

5. CONFLICT OF INTERESTS

The Authors declare that there is no conflict of interests regarding publication of this paper.

6. ACKNOWLEDGEMENT

Authors thank Dr Jitendra wadhwani for his assistance in writing of this manuscript. This study did not receive any specific grant from funding agencies in public, commercial or not-for-profit sectors.

7. REFERENCES

1. Donnel MA, Foo ITH. Regional anesthesia for transurethral resection of prostate. Oxford J BJA, 2009; 1: 92-6.
2. Bhattacharyya S, Bisai S, Biswas H, Tiwary MK, Mallik S, Saha SM. Regional anesthesia in transurethral resection of prostate (TURP) surgery: A comparative study between saddle block and subarachnoid block. Saudi Journal of Anaesthesia, 2015; 9(3): 268-271.
3. Blake DW. The general vs. regional anesthesia debate: Time to re-examine the goals. Aust N Z J Surg, 1995; 65: 51–56.
4. Malhotra V, Sudhneendra V, O'hara J, Malhotra A. Anesthesia and the renal and genitourinary systems. In: Miller R.D, editor. 8th ed. Miller's anaesthesia. International edition: Elsevier Saunders, 2015; 2217-43.
5. Ko JY, Leffert LR. Clinical implications of neuraxial anaesthesia in the parturient with scoliosis. Anesth Analg, 2009; 109: 1930-4.
6. Ozyurt G, Basagan-Mogol E, Bilgin H, Tokat O. Spinal anesthesia in a patient with severe thoracolumbar kyphoscoliosis. Tohoku J Exp Med., 2005 Nov; 207(3): 239-42.