

CASE REPORT

OBTURATOR NERVE BLOCK WITH SUB ARACHANOID BLOCK FOR A CASE OF COPD WITH COR PULMONALE UNDERGOING TURP AND TURBT

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ABSTRACT: Choosing safe and viable anesthetic technique is pivotal role for anesthesiologist. It depends Age, preexisting systemic diseases and Type of surgery. In this case report we have chosen obturator nerve block with sub arachnoid block for a case of COPD with cor pulmonale undergoing TURP and TURBT as an alternative to general anesthesia to avoid the perioperative Anesthetic complications of a patient with COPD and Cor pulmonale.

KEYWORDS: Obturator Nerve Block, Anesthesia for TURP, TURBT, sub arachnoid block (SAB).

INTRODUCTION: Different modalities are available for the anesthetic management of patients undergoing TURP and TURBT like general anesthesia with neuromuscular blockade, subarachnoid block, and subarachnoid block combined with obturator nerve block etc. In case of patients with chronic obstructive pulmonary disorders and cor pulmonale where general anesthesia is disadvantageous owing to increased pulmonary artery pressure, bronchospasm due to airway instrumentation, atelectasis due to decreased functional residual capacity and lithotomy position, ventilation perfusion mismatch and pneumothorax due to possibility of rupture of emphysematous bullae under general anesthesia obturator nerve block combined with subarachnoid block (SAB) is a safe and viable alternative anesthetic technique.

CASE REPORT: A 70 year old male patient weighing 65 kg and 160 cms in height presented to the urologist with a history of painful micturition and dysuria and a cystoscopy was done under local anesthesia. Cystoscopy revealed a grade II benign prostatic hyperplasia and an exophytic lesion on the antero-lateral bladder wall on the left side. A biopsy was taken and histopathological examination revealed a grade II transitional cell carcinoma with focal prostatic infiltrations. A transurethral resection of prostate (TURP) and transurethral resection of bladder tumor (TURBT) was planned and the patient was referred for a pre anesthetic evaluation.

History revealed a 50 year history of smoking (50 pack-years) and alcoholism and NYHA grade II dyspnoea. On examination patient had a pulse rate of 62/min and a blood pressure of 100/70 mm of Hg right arm supine oxygen saturation on room air was 94%. There were decreased breath sounds bilaterally over all lung fields with crepitations in the lower lung fields. Chest X-ray revealed bilateral emphysematous changes and a tubular heart. Pulmonary function tests showed severely reduced FEV₁.

Patient was classified ASA III and subarachnoid block with an obturator nerve block was planned. Risks, benefits and other available methods of anesthesia including plain subarachnoid block, general anesthesia were explained to the patient and an informed, written consent was obtained.

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On the arrival to pre induction room on the day of operation an intravenous access was secured using an 18G cannula and IV fluids were started. The patient was then later shifted to the operating room, connected to non-invasive blood pressure, electrocardiogram and pulse oximetry monitors. A titrated dose of midazolam was given. Patient was put in a sitting position. Under strict aseptic precautions the back was painted and draped. Lumbar puncture was done in the L3-L4 space with a 25G spinal needle and 15mg of 0.5% Bupivacaine heavy was injected intrathecally after confirming proper placement by aspirating a clear, free cerebro-spinal fluid flow. A block of up to level T10 (defined as a loss of sensation to pinprick) was obtained. Vitals [noninvasive blood pressure (NIBP), heart rate (HR), oxygen saturation (spo2)] were monitored every 5 min and after confirming there no deteriorations, patient was put in lithotomy position. A 21 G 10 cm Stimuplex needle was inserted 1.5 cm lateral and 1.5 inferior to the pubic tubercle, local infiltration was not required as already SAB is given. The needle was stimulated with 1.5 mA and advanced till strong contraction of adductor muscles was noted. After verifying no back flow of blood, 10 ml of 2% Lignocaine (maximum dose 5mg/kg) was injected with onset of action of 10min. Surgery was started and vital parameters (NIBP,HR,SPO2) were monitored and observed for adductor jerks during lateral wall tumor resection which did not occur. Intraoperative blood loss was moderate and fluids were titrated in view of cor pulmonale with heart failure. Procedure took 2hrs. Patient was shifted to recovery room, monitored for 2hrs and later shifted to surgical intensive care unit with HR- 86b/m, NIBP-110/70 mmhg, spo2-98% without any anesthetic and surgical complications.

DISCUSSION: The obturator nerve originates from lumbar plexus of L2 to L4 and contains both motor and sensory components. It passes the obturator foramen of the pubis and innervates adductor muscles of the thigh. In the pelvic cavity it runs close to the prostatic urethra, bladder neck and infero-lateral bladder wall.¹⁻³ Since it is very close to the lateral aspect of the bladder wall, when the bladder is distended with irrigation fluid during transurethral resection of prostate, electrical currents easily stimulate obturator nerve, activating adductor muscle jerk reflex, which can push the bladder wall towards the electro-cautery blade and lead to perforation.⁴⁻⁶ Different strategies are adopted to avoid these complications during surgery such as use of general anesthesia with muscle relaxants, obturator nerve blockade (ONB). Selective obturator nerve block along with regional anesthesia (SAB) may be an effective option to prevent adductor spasm^{7,8} and avoid the complications of general anesthesia. Sub arachnoid block with Obturator nerve block was selected for this patient in view of preventing anesthetic complications associated with COPD and cor pulmonale under general anesthesia like increased pulmonary artery pressure, bronchospasm due to airway instrumentation, atelectasis due to decreased functional residual capacity and lithotomy position, ventilation perfusion mismatch and pneumothorax due to possible rupture of emphysematous bullae. Advantages of sub arachnoid block with ONB in cases of TURP and TURBT are early identification of TURP syndrome, significantly less bleeding, early mobility, good perioperative analgesia. Disadvantages include risk of poor nerve blockade leading to failed abolishment of obturator jerk,⁹ hematoma, puncture of obturator artery leading to hematoma and visceral puncture, none of which occurred in our case. General endotracheal anesthesia with neuromuscular blockade was kept as a backup plan in case of a failed block.

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CONCLUSION: We conclude that obturator nerve block with sub arachnoid block for a case of COPD with cor pulmonale undergoing TURP and TURBT is a safe and viable anesthetic technique.

REFERENCES:

1. Brown DL. Atlas of Regional Anaesthesia. Philadelphia, PA: WB Saunders, 1992: 103-8.
2. Moore DC, ed. Obturator nerve Block. Regional Block, 4th ed. Springfield, IL: Charles C. Thomas, 1965: 289-93.
3. Berberoglu M, Uz A, Ozmen MM, Bozkurt C, Erkurun C, Taner S, Tekin A, Tekdemir I. Corona Mortis: an anatomic study in seven cadavers and an endoscopic study in 28 patients. Surg Endosc 2001; 15: 72-5.
4. Mydlo JH, Weinstein R, Shah S, Solliday M, Macchia and/or Violation in the presence of Transitional cell carcinoma: results of a small series and a review of the Literature. J Urol 1999; 161: 1128-32.
5. Hahn RG, sandfeldt L, Nyman C R. Double-blind randomized study of symptoms associated with absorption of glycine 1.5% or mannitol 3% during transurethral resection of the prostate. J Urol 1998; 160: 397-401.
6. Collado A, chechile GE, Salvador J, Vicente J. Early complications of endoscopic treatment for superficial bladder tumors. J Urol 2000; 164: 1529-32.
7. Tatlisin A, Sofikerim M. Obturator nerve block and transurethral surgery for bladder cancer. Minerva Urol Nefrol 2007; 59: 137-41.
8. Deliveliotis C, Alexopoulou K, Picramenos D, Econornacos G, Goulandrakis N, Kostakopoulos A. The contribution of the obturator nerve block in the transurethral resection of bladder tumors. Acta Urol Belg 1995; 63:51-4.
9. Akata T, Mavakami J, Yoshinaga A. Life-threatening haemorrhage following obturator artery injury during transurethral bladder surgery: a sequel of Unsuccessful obturator nerve block. Acta Anaesthesiol scand 1999; 43: 784-8.

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