

Case Report Of Spinal Anesthesia In A Patient With Kyphoscoliosis For Emergency Repeat Caesarean Section.

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Abstract: *Patients with kyphoscoliosis for emergency caesarean section present challenges for administration of anesthesia owing to changes in anatomy of spine and physiological changes associated with pregnancy. The anesthetic management must address well being of both mother and fetus. Here is a case report of successful use of spinal anesthesia in a parturient with traumatic kyphoscoliosis for emergency repeat caesarean section.*

Keywords: *Traumatic kyphoscoliosis, emergency repeat caesarean section, spinal anesthesia*

INTRODUCTION

Kyphoscoliosis involves kyphosis, that refers to anteroposterior spinal angulation and scoliosis which is lateral spinal curvature. In addition to the lateral curvature of the spine, the vertebrae are rotated. Pregnancy may exacerbate the severity of spinal curvature in women with uncorrected scoliosis. Here is a case report of successful use of spinal anesthesia in a parturient with traumatic kyphoscoliosis for emergency repeat caesarean section.

Case report:

A 22 years old, 50 kg, 145 cm, second gravida, 39 weeks pregnant woman who was diagnosed to be in obstructed labor, was posted for emergency caesarean section. She gave a history of trauma due to fall during her childhood leading to kyphoscoliosis at L3-S1. History of previous caesarean section under general anesthesia due to kyphoscoliosis was present.

Anesthetic airway assessment revealed a Mallampatti score of one, with adequate mouth opening, intact dentition and a full range of neck movements. A full stomach status was present as the patient had taken a meal 2 hours before

surgery. Metoclopramide 10 mg and ranitidine 50 mg were administered intravenously 30 minutes prior to surgery. Examination of spine revealed kyphoscoliotic curvature extending from L3 to S1. Her blood investigations were within normal limits. Her chest X-ray PA view was normal. On admission, her pulse rate was 80/min, blood pressure was 110/80 mm of Hg, SpO₂ 99%. Bilateral normal vesicular breath sounds were heard on chest examination. Other systems were normal. Various anesthetic options were discussed with the patient and it was decided to administer spinal anesthesia due to full stomach of the patient and emergency of obstructed labor. The patient was shifted to OT where peripheral venous access was secured with an 18G cannula. She was preloaded with Ringer's lactate @ 10 ml/kg. Continuous non invasive blood pressure, pulse oximetry, ECG monitoring was established. The patient was then placed in lateral position and 25G Quincke's spinal needle was introduced in L3-L4 interspace until clear CSF was obtained. Spinal anesthesia was then administered by injecting 1.8ml of 0.5% bupivacaine. The patient was then placed in supine position and sensory blockade was confirmed by loss of sensation to

pin prick below T7 dermatome. Oxygen was supplemented to the patient. She delivered a baby boy with Apgar score of 9/10 in first minute and 9/10 in fifth minute. She was comfortable during surgical procedure which was successfully completed. There was no hypotension in perioperative period. After surgery, the patient was monitored closely for 24 hours in postoperative ward. Post operatively, she did not complain of headache or back pain. The patient was discharged after 8 days.

Discussion : An important focus in obstetric surgery is the safe and skilled anesthetic management to minimize risk to mother and fetus. For an emergency caesarean section in a patient with full stomach and traumatic kyphoscoliosis, the feasibility and choice of anesthesia is even more important. General Anesthesia is indicated in cases of maternal preference; maternal cardiorespiratory disease or anticipated difficult regional block. The maternal mortality and morbidity correlates well with the degree of functional impairment before pregnancy.¹ Increased mucosal vascularity of respiratory tract may lead to difficulty in endotracheal intubation. Edema of airway results in increased potential for bleeding and smaller sized endotracheal tubes should be used for General Anesthesia. Care should be taken to avoid hypoxia, hypercapnia, acidosis.

Kyphoscoliosis is usually an idiopathic disorder. By measuring Cobb's angle, we can determine the severity of scoliosis and spinal deformity.^{2,3} In kyphoscoliotic patients, the peripheral vascular resistance is increased so increase in cardiac output is not tolerated during pregnancy.⁵ Operative delivery is increased in such patients due to skeletal deformities and cephalopelvic disproportion as in present case. Cesarean section is also difficult due to acute anteflexion of uterus.⁷ Both general anesthesia and central neuraxial anesthesia are described for caesarean sections in patient with kyphoscoliosis and scoliosis.^{1,6}

Neuraxial anesthesia in this type of patient is technically challenging to the anesthesiologist. Regional epidural anesthesia in a patient with lumbosacral kyphoscoliosis is a challenge because distorted anatomy leads to difficulty in location of epidural space. There are reports on the use of USG for locating epidural space. There is a greater chance of dural puncture when epidural anesthesia is attempted. Advantages of spinal anesthesia over epidural anesthesia include appearance of CSF which eliminates difficulty in identifying a distorted epidural space and complication of dural puncture. Spread of local anesthetic agent is more reliable than epidural route.

The increased intraabdominal pressure in pregnancy and the presence of engorged veins in epidural space cause a decrease in subarachnoid space. Hence in these cases, normal dose of local anesthetic can lead to higher levels of block leading to hypotension. Kyphoscoliosis can be associated with decrease CSF volume which further enhances level of block.⁴ Anesthetic management of kyphoscoliotic parturient using combined spinal epidural technique and local infiltration anesthesia in event of failure of regional block have been reported.²

Conclusion: Etiology of kyphoscoliosis may be varied. Based on clinical assessment and full stomach status of this patient, administration of spinal anesthesia was the best option.

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