

Pregnant Patient With Large Sacrococcygeal Mass For Emergency LSCS: A Challenge For The Anaesthesiologist

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Citation

G Chopra, D Kumar Singh, P Jindal, R Makker, Tumul. *Pregnant Patient With Large Sacrococcygeal Mass For Emergency LSCS: A Challenge For The Anaesthesiologist*. The Internet Journal of Anesthesiology. 2006 Volume 12 Number 2.

Abstract

A patient with spinal abnormalities presents unique challenge to anesthetist. Spinal deformities can cause difficulty with regional anaesthesia. We describe the anaesthetic management of an emergency caesarean section of an elderly primigravida with a large sacrococcygeal mass using spinal anaesthesia.

CASE REPORT

A 40 year old elderly primigravida with short stature and large sacrococcygeal mass presented in the emergency with complaints of 38 weeks amenorrhea, bleeding per vagina, and no perception of fetal movements. The patient was conscious and well oriented to time place and person. Her heart rate was 118/min regular, blood pressure was 126/80 right arm, respiratory rate was 38/minute MP grade was III. The thyromental distance was 5 cm; (predictor for difficult intubation) mouth opening was 3 fingers. Her investigation reports revealed: Hb: 8.8 gm%, PCV=25.4, TLC 25,550 cu mm, $N_{92}L_7E_1$, Platelet count 2.2 lac/cumm, BT: 3'15" and clotting time 6'45". Physical examination revealed limited lung capacity and bilateral coarse crepitations were present all over the lung fields.

On examination there was a large conical sacrococcygeal mass because of which the patient was unable to lie supine or sit. The patient was able to attain lateral position only. The spinous process and the vertebral column anatomy was distorted due to the mass.

Spinal anaesthesia was considered for this procedure. The patient was explained the anaesthetic procedure in detail and informed consent was taken. Preparations were made for airway and circulation in the event of high spinal anaesthesia. Oxygen was administered by face mask and the patient was continuously monitored with electrocardiography, pulse oximetry, and non invasive blood pressure. The patient was placed in left lateral position for performing the block but due to the mass, we could not achieve the appropriate position for performing the

intrathecal block. Therefore we did some maneuvers, a pillow was placed beneath the left shoulder to make the spine of the scapula perpendicular to the table and OT table was tilted 20° to the right to straighten the spine and to make it parallel to the floor. Patient was preloaded with 500 ml of colloid. Under all aseptic precautions local infiltration with 2% lignocaine 2ml a 25 gauge Quincke spinal needle was inserted in the L2-3 interspace with midline approach. The needle was slowly advanced towards the dura, and the subarachnoid space was reached after the needle had been advanced 4.5 cm. An intrathecal injection of 2.25 ml (11.25mg) of 0.5% hyperbaric bupivacaine was given slowly. Hyperbaric solution of local anaesthetic is of high density compared with cerebrospinal fluid to prevent the cephalad spread of the drug.

The block was adequate with the sensory block upto T5 and adequate motor blockade (T7). The patient was given 1 litre of crystalloids. Eyes were covered to prevent psychic trauma and oxygen at 4L/min was given by face mask.

As the surgery could not be performed in supine position due to the mass hence the table was again tilted to right side for better surgical field. A stillborn fetus was delivered. The surgery was completed without any further complications. The vitals remained stable both during and after the procedure. The patient was shifted to the high dependency obstetric care unit and was discharged on the 10th post operative day without any further complication.

Figure 1

Figure 1: Patient in right lateral position showing a large sacrococcygeal mass



DISCUSSION

Spinal anaesthesia is less reliable in the presence of spinal deformity, but successful outcomes have been described. The presence of abnormal spinal curves makes the effect of posture on the distribution of an intrathecally administered drug difficult to predict. Caution is required because excessively high levels of block, with respiratory insufficiency, have been reported. In one case, the spinal component ascended rapidly even though only normal saline was injected into the epidural space¹. The spread of local anesthetics in the subarachnoid space is dependent on:

1. gravity
2. volume
3. mass
4. baricity
5. speed of injection
6. size of needle

Hyperbaric solutions (SG >1.009) will tend to spread caudal in patients in the sitting position and cephalad in patients in the Trendelenburg position. As a result of the intrinsic curves of the spine an injection made at L4 or lower with the patient in the supine position will tend to spread caudal and that made at L3 or higher will spread cephalad. Hypobaric solutions (SG < 1.003) will spread in the opposite direction.

2x3x4

The distribution of isobaric solutions (SG between 1.003 and 1.009) is unaffected by gravity and, therefore, by patient posture.

Douglas² described an asymmetric block in a patient with marked scoliosis; the patient had incomplete block on the left side but satisfactory block was obtained with hyperbaric bupivacaine after the table was tilted to the left. Similarly in our case we achieved our two goals (1) alignment of the vertebral column (2) uniform distribution of hyperbaric bupivacaine solution by tilting the table towards the right side.

Spinal anaesthesia was considered the best option in our case because of expected difficult intubation (MP grade was III, thyromental distance was 5 cm) also the physical examination revealed limited lung capacity and decreased breath sounds bilaterally which made us plan for regional (spinal) anaesthesia.

Our rationale for tilting the table to 20° towards the right side was based on previous experience and many studies, which clearly indicate the movement of anaesthetic solution to gravitate to the lower end of the spinal column and then spreading unilaterally due to spinal deformity. In one similar case Ozyurt et al³ injected hypobaric anaesthetic solution in right lateral position and maintained in same position to obtain bilateral surgical anaesthesia.

The case demonstrates that spinal anaesthesia can be successful even in cases of severe lumbosacral deformities. Intrathecal injection of hyperbaric local anaesthetic along with optimal position i.e. desired angle may help achieve symmetrical and adequate motor and sensory blockade in patients with extreme spinal deformities.

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