Anaesthesia for emergency caesarean section in a morbidly obese achondroplastic patient with PIH: Feasibility of Neuraxial anaesthesia?

Sir,

Association of morbid obesity and achondroplastic dwarfism complicates the choice of anaesthesia in pregnancy. Regional anaesthesia for caesarean in obese pregnant patients is common despite procedural difficulties. However use of spinal anaesthesia in achondroplastic patients has been associated with confusion regarding safety, dosage and drug choice, especially obstetrics.

A 25-year-old primigravida was referred to our hospital at 38 ± 3 week gestation with meconium stained liquor for emergency caesarean section (CS). She weighed 90 Kg with a height of 104 cm and body mass index (BMI 80 kg/m²), morbid obesity. She was a diagnosed case of pregnancy induced hypertension (PIH), not on medications. She had complaints of fever, productive cough and dyspnea (NYHA III) since 10 days and was on antibiotics. She was afebrile, pale with stable vitals. Systemic examination revealed lumbar lordosis, pedal edema and crepitations in lung bases. She had an anticipated difficult airway in view of short neck, limited neck extension, large tongue and Mallampatti grade 3. Her haemoglobin was 7 gm% but coagulation, renal and liver functions were normal. Chest X-ray demonstrated bilateral lower zones haziness, and increased bronchovesicular markings. ECG showed sinus rhythm and 2-D echocardiography revealed left ventricular ejection fraction 55-60%.

In view of difficult airway and poor chest, neuraxial anaesthesia was planned after discussing with the patient and obstetrician. Aspiration prophylaxis and intravenous antibiotics were administered. The bladder was catheterized and large bore intravenous access was secured. Standard ASA monitoring was instituted. Oxygen was administered. Right radial artery was cannulated under local anaesthesia for haemodynamic monitoring. Difficult airway cart was kept ready. After left lateral positioning, lumbar area was prepared with antiseptic. 5 mg hyperbaric bupivacaine and 10 µg fentanyl (1.2ml volume) was injected intrathecally using a 25 G spinal needle at L3-L4 interspace. A sensory analgesia level up to T4 dermatome was achieved.

The surgery lasted one hour, patient was haemodynamically stable throughout. She received 1.5 L of Ringer's lactate and 15 U oxytocin with blood loss of 500 ml. A baby weighing 1.8 kg with normal Apgar score was extracted. 1 gm paracetamol 6th hourly and injection diclofenac 75 mg 12th hourly were administered as postoperative analgesia. She was discharged on day 6, with a healthy baby.

Anatomical considerations like kyphosis, scoliosis, spinal stenosis lead to apprehensions in instituting regional anaesthesia.[1] Though encouraging literature is available on use of epidural, reports on spinal anaesthesia remain largely inconclusive.[2,3] Cord compression, disc prolapse with resulting disc herniation and paraplegia have been reported.[3] Free flow of CSF may also be difficult to obtain in these patients. Obesity and dwarfism may contribute to a high spinal block due to an unpredictable spread of drug.[4,5] The BMI in the present case was 80 kg/m². Thus, it may be tricky to quantify the optimal amount of local anaesthetic for safe anaesthesia. Insipe of lack of robust guidelines for regional anaesthesia in dwarf parturients, we chose spinal anaesthesia. The choice was dictated by several factors. First, general anaesthesia in the scenario was a risky bet, especially considering the lack of preparation, aspiration risk, in addition to the usual risks for general anaesthesia in pregnancy and obesity. At the same time, patient did not have any other bony deformities except mild lumbar lordosis. We preferred spinal over epidural due to urgency of the situation. As reported, a low-dose bupivacaine-fentanyl combination was safe. Furthermore, vasopressor therapy was not required. Thus, successful anaesthetic management in these patients depends on the understanding of pathophysiology, available anaesthetic options, comprehensive assessment, thorough consideration of risks, strict haemodynamic monitoring and an awareness of the potential complications.

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Conflicts of interest
There are no conflicts of interest.
Angelman syndrome and anaesthetic considerations

Sir,

Angelman syndrome (AS) is an orphan genetic disorder, characterised by severe neurodevelopmental delay, balance dysfunction and a 'happy demeanor'.

A 36-year-old girl, genetically investigated for AS, was posted for open cholecystectomy. Written informed consent was obtained from the parents for surgery and for scientific publication without identity disclosure.

Patient was carried by her father, was apprehensive, startling at sudden sounds and had heightened separation anxiety. She demonstrated inquisitiveness and hypersociability with an incomprehensible language.

Patient was malnourished, weighing 10 kg and 99 cm high. Spasticity was present in all four limbs. Mild retrognathism with prominent upper incisors, increased sternomental distance and high palatal arch indicated a difficult airway. Rest of the examination was unremarkable.

In view of severe malnourishment, nutritional build-up and protein-calorie rich formula feeds were given orally at 4 h intervals under close monitoring and 6 weeks later, after a weight gain of 7 kg, she was posted for elective open cholecystectomy. She exhibited severe parental separation anxiety, and inj midazolam was given in aliquots of 1 mg to a total of 4 mg with fentanyl citrate 25 μg. Patient remained alert with no lessening of separation anxiety. Concerns about delayed awakening prompted having her father accompany her inside the operating theatre.

Anaesthesia was as per standard protocol. Laryngoscopy revealed Cormack and Lehane Grade IV. External manipulation failed, and a 6.0 mm cuffed endotracheal tube was threaded successfully over an intubating bougie.

For post-operative analgesia, an 18-gauge epidural catheter (Portex) was placed through the midline approach at 3.5 cm at the L1-L2 interspace after space was located by ultrasound guidance (linear transducer, 6–14 MHz, Terason uSmart 3200T, Teratech Corporation, Burlington). Catheter was secured 5 cm on skin. Anaesthesia was maintained with oxygen, nitrous oxide (40:60) and sevoflurane, 1%–1.5%. Epidural bolus of 8 ml of 0.25% bupivacaine was given before skin incision. There were no significant intraoperative haemodynamic changes. Neuromuscular blockade was reversed uneventfully.

Epidural infusion of 0.125% bupivacaine at 4 ml/h

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