

## 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/m<sup>2</sup>, 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 12<sup>th</sup> 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.<sup>[1]</sup> Though encouraging literature is available on use of epidural, reports on spinal anaesthesia remain largely inconclusive.<sup>[2,3]</sup> Cord compression, disc prolapse with resulting disc herniation and paraplegia have been reported.<sup>[3]</sup> 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.<sup>[4,5]</sup> The BMI in the present case was 80 kg/m<sup>2</sup>. Thus, it may be tricky to quantify the optimal amount of local anaesthetic for safe anaesthesia. In spite 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.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

**Ridhima Sharma, Rohan Magoon, Ripon Choudhary,  
Punit Khanna**

Department of Anaesthesiology and Critical Care,  
Postgraduate Institute of Medical Education and Research,  
Chandigarh, India

**Address for correspondence:**

Dr. Ridhima Sharma,  
C5 St Stephen Hospital Quaters,  
Rajpur Road Tis Hazari,  
Delhi, India.  
E-mail: drridhimasharma@yahoo.com

**REFERENCES**

1. Mikhael H, Vadivelu N, Braveman F. Safety of spinal anesthesia in a patient with achondroplasia for cesarean section. *Curr Drug Saf.* 2011;6:130-1.
2. İnan G, Yayla E, Taş Ü, Arık E, Günaydın Bs. Single Shot Spinal Anaesthesia for Caesarean Delivery of Two Achondroplastic Parturients. *Turkish Journal of Anaesthesiology and Reanimation* 2015;43.(4): 285-7.
3. Samra T, Sharma S. Estimation of the dose of hyperbaric bupivacaine for spinal anaesthesia for emergency caesarean section in an achondroplastic dwarf. *Indian J Anaesth* 2010;54:481-2.

4. Mace HS, Paech MJ, McDonnell NJ. Obesity and obstetric anaesthesia. *Anaesth Intensive Care.* 2011;39(4):559-70.
5. Li X, Duan H, Zuo M. Case report: Anesthesia management for emergency cesarean section in a patient with dwarfism. *BMC Anesthesiology.* 2015;15:59.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

Access this article online	
Quick response code	Website: www.ijaweb.org
	DOI: 10.4103/0019-5049.198401

**How to cite this article:** Sharma R, Magoon R, Choudhary R, Khanna P. Anaesthesia for emergency caesarean section in a morbidly obese achondroplastic patient with PIH: Feasibility of Neuraxial anaesthesia?. *Indian J Anaesth* 2017;61:77-8.

© 2017 Indian Journal of Anaesthesia | Published by Wolters Kluwer - Medknow