

Anesthetic management for elective cesarean section in a case of acromegaly with diabetes mellitus

Sir,

We report a case of anesthetic management for cesarean section of a parturient with acromegaly, associated diabetes mellitus (DM) who had conceived by *in vitro* fertilization (IVF). She had undergone surgical resection, radiation and medical treatment (Cabergoline) for acromegaly. In view of precious, complicated pregnancy, general anesthesia was administered, which was uneventful.

A 30-year-old primigravida, weighing 70 kg, height 156 cm, with body mass index 28.76, a known case of acromegaly with DM in whom IVF was done, was posted for elective cesarean section. Transsphenoidal resection of pituitary adenoma was done twice 7 and 5 years back. Radiotherapy was given for residual tumor following which tablet Cabergoline 1 mg twice a day was started for growth hormone (GH) hypersecretion suppression. Cabergoline was stopped 1 year back prior to fertility treatment as GH levels were normal. DM was controlled with injection insulin 48 units/day, which was increased to 58 units/day during pregnancy as per advice of treating Endocrinologist and Obstetrician. Ante natal period was uneventful with no evidence of increase in tumor size or pregnancy induced hypertension.

Pre-operative assessment revealed features of acromegaly such as prognathism, macroglossia spade like hands increased heel pad thickness (55 mm) [Figure 1], which had not regressed with treatment. On assessment of airway, though mouth opening was adequate, Mallampati (MP) grade was III, neck was short and thyromental distance was 6 cm. She had no history of snoring. Pulse was 100/min; blood pressure (BP) 110/80 mm of Hg, breath holding time was 24s. Systemic examination was



Figure 1 : Photograph showing patients foot with increased heel pad thickness

normal. All hematological and biochemical investigations were normal. Fasting glucose was 66 mg% post-lunch glucose was 83 mg% glycosylated haemoglobin 4.9 (HbA1c) funduscopy: Normal. Direct laryngoscopy with 70° scope showed only posterior part of vocalcords with normal movements. Pregnancy being precious and complicated, regional anesthesia was not considered and general anesthesia was planned. Difficult intubation cart including intubating laryngeal mask airway and fiber optic bronchoscope was kept ready. Morning insulin was omitted. Aspiration prophylaxis; tablet pantoprazole 40 mg 6 h prior and injection ondansetron 4 mg intravenous 2 h prior to surgery was given. Patient was monitored using cardioscope, pulseoximeter, capnometer and non-invasive BP monitor. Patient was pre-oxygenated with 100% oxygen for 5 min. Rapid sequence induction was performed using the thiopentonesodium (350 mg) and succinylcholine (100 mg). Laryngoscopy with No.4 blade was done. Cormacke Lehane grade was II, intubation with 7.5 cuffed poly vinyl chloride tube done. Anesthesia maintained with controlled ventilation and standard protocols. A 3.2 kg baby was delivered with Apgar score of 8 at birth. Vital parameters intraoperatively were maintained. Patient was extubated after reversal, once awake. Second post-operative day, patient developed bilateral crepitations, puffiness of face, which responded to diuretics, oxygen and nebulisation. No maternal insulin required in post-operative period. Neonatal blood glucose values were 56 mg/dl, 68 mg/dl and 100 mg/dl at 1, 4 and 6 h of life. *Klebsiellapneumonia* developed in the neonate, which responded to antibiotics.

The structural abnormalities involving the upper airway in acromegalics make functional aspects of airway management and intubation very challenging as MP grade may not project a true picture of the interior airway thus causing difficult bag and mask ventilation during administration of general anesthesia.^[1] Skeletal changes that accompany acromegaly may make performance of regional anesthesia technically difficult or unreliable.^[2] Pregnancy in acromegaly is difficult.^[3] Few data is available on pregnancy in acromegaly. Pregnancy in women with active or uncontrolled acromegaly may be associated with an increased risk of gestational diabetes and gravid hypertension.^[4] Although the number of cases is small, no adverse effects on fetal development have been documented with use of pharmaceutical agents.^[5] In our case, Cabergoline was stopped prior to IVF. Successful anesthetic management for caesarean section includes complete assessment of airway difficulties, proper maternal glycemic control and ruling out maternal hypertension or cardiomyopathy.

In our case, regional anesthesia though safe for cesarean section was deferred and general anesthesia was given to avoid the risk of sudden change in intracranial dynamics; as patient had undergone intracranial surgery for pituitary tumor twice. Choice of anesthetic technique is always a dilemma in patients with precious and complicated pregnancy.

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