



ANAESTHETIC MANAGEMENT OF LEFT HEMITHYROIDECTOMY IN SECOND TRIMESTER OF PREGNANCY – A CASE REPORT

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ABSTRACT

A 35 year old Gravida 2 Para 1 Living 1 with 16 weeks gestation presented with a swelling in front of neck since 3 years, associated with dyspnea and dysphagia since 3 months. Relevant work-up revealed multinodular colloid goitre with euthyroid status. Patient underwent left hemithyroidectomy under general anaesthesia and bilateral superficial cervical plexus block, and was managed efficiently with meticulous maternal hemodynamic monitoring and fetomaternal monitoring. Patient had a stable postoperative course and viable fetus post surgery.

KEYWORDS : Non –obstetric surgery; Uteroplacental circulation; Multinodular goitre; Hemithyroidectomy; General anaesthesia; Superficial cervical plexus block

INTRODUCTION:

Surgery during pregnancy is complicated by the need to maintain homeostasis of two patients, hence avoided unless absolutely necessary for maternal or fetal wellbeing. General anaesthetics cross the placenta, however, no convincing evidence exists that any particular drug is teratogenic. We present a patient in the second trimester with multinodular goitre with compressive symptoms who underwent left hemithyroidectomy under general anaesthesia.

CASE REPORT:

A 35 year old gravida 2, para 1, living 1 with 16 weeks gestation, with no known comorbidities, presented with a swelling in the front of neck since 3 years, associated with an increase in size, with dyspnea and dysphagia since 3 months.



On Examination:

The swelling was 12 X 8 cm, moved with deglutition but not with protrusion of tongue, inferior border was made out.



Vitals: PR: 90/min, BP: 110/60 mmHg, SpO₂: 98% room air.

Airway examination revealed MPT G3 with restricted neck flexion.

Systemic examination was normal.

Investigations revealed haemoglobin of 10.3 g/dl with normal blood counts, LFT, RFT, coagulation profile and ECG and 2D Echo.

Euthyroid status -TSH1.38 U/ml, FT3 2.8pg/ml, FT4 0.78ng/dl, S.

Calcium 8.7 mg/dl.

MRI neck showed left lobe enlargement extending from strap muscles to prevertebral region, pushing trachea and esophagus laterally without tracheal luminal narrowing, with no retrosternal extension. TIRADS 2. FNAC suggestive of colloid goitre.

Obstetric Scan:

showed singleton live intrauterine gestation of 16 weeks with good cardiac activity. Obstetric opinion sought and advised continuation of pregnancy with Hydroxy progesterone Caproate supplementation.

IDL showed bilateral intact RLN function with both vocal cords mobile. Case was accepted under ASA II E.

Informed written consent about polypharmacy and risk of preterm delivery was taken. Aspiration prophylaxis was administered in the form of Inj. Ranitidine 50 mg IV + Inj. Metoclopramide 10 mg IV 30 minutes prior to induction.

Two 18G IV cannulas were secured and the patient preloaded with Ringer lactate 15 ml/Kg.

Difficult airway cart was kept ready. Standard ASA monitors ECG, NIBP, Pulse oximeter and End tidal CO₂ analyser were attached.

Patient was placed in supine position with a wedge under the right hip to cause left uterine displacement and prevent supine hypotension (aortocaval compression syndrome). Patient was premedicated with Inj. Glycopyrrolate 0.2mg IV, Inj. Midazolam 1 mg IV and Inj. Fentanyl 100 mcg IV and preoxygenated with 100 % O₂ at 10 L/min for 5 minutes. Induction was done with Inj. Propofol 100mg IV, and Inj. Succinylcholine 100 mg IV. Laryngoscopy response was attenuated with IV 2% Lignocaine 60mg. Under Video Laryngoscopy, Cormack Lehane Grade 2b seen and patient intubated using 6.5 mm cuffed flexometallic tube. Ultrasound - guided Superficial cervical plexus block given using Inj. Bupivacaine 0.25% 10 ml + 4mg Dexamethasone on each side. Anaesthesia was maintained with 50% O₂ and 50% N₂O with isoflurane, vecuronium and fentanyl boluses. Intraoperative hemodynamic parameters were stable. Fetal heart rate monitoring was done every 15 mins using hand-held Doppler. At the end of surgery, bilateral vocal cord mobility was confirmed using Videolaryngoscope.

Patient was extubated after adequate spontaneous respiratory efforts and a Positive Cuff leak test. Post operative period was uneventful. Obstetric scan done on post operative day 1 showed a viable fetus with good fetal cardiac activity. Tab. Progesterone 200mg BD was continued postoperatively.

Patient delivered a healthy baby by full term normal vaginal delivery at 37+6 weeks gestation.

DISCUSSION:

General anaesthesia during pregnancy requires consideration of physiological and pharmacological adaptations to pregnancy, avoidance of awareness and unwanted drug effects on the fetus, maintenance of uteroplacental circulation, prevention/ treatment of

preterm labour. Aortocaval compression is a major hazard starting from 16 weeks, and can be prevented by left uterine displacement. Due to increased sensitivity to intravenous anaesthetics and reduced MAC, all anaesthetics should be given at lower doses. Apart from maternal hemodynamic monitoring, fetal heart rate should be monitored for fetal hypoxemia and acidosis, maternal respiratory acidosis and uteroplacental insufficiency.

CONCLUSION:

Anaesthesiologists caring for obstetric patients must ensure both fetal and maternal well being. With a thorough understanding of maternal and fetal physiology, best care can be provided to both these vulnerable patients.

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