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Cervical Epidural for Total Thyroidectomy in a Patient with Large Thyroid Nodule with Retrosternal Extension with Superior Vena Caval Compression Syndrome

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Abstract:- Thyroid surgeries are conventionally performed under general anaesthesia . With raising concerns on GA related cardiorespiratory status of patient , preference for regional anaesthetic technique is increasing . We, hereby, present a successful anaesthetic management of a patient posted for total thyroidectomy done under cervical epidural .

Keywords:- *Total Thyroidectomy ; Cervical Epidural .*

I. INTRODUCTION

Epidural anaesthesia is a ubiquitous technique in regional anaesthesia. While the earlier trials have widely focused on lumbar or thoracic epidurals, the cervical approach has been an upcoming technique since the past few years and has attracted investigators to explore its viability for various surgeries. Administration of local anaesthetic into the cervical epidural space results in anaesthesia of cervical plexus, brachial plexus and superior thoracic dermatomes. Additional advantages are lower cost, reduced intraoperative blood loss, stable cardiovascular status, reduced stress response, postoperative analgesia and early ambulation of the patient .

Pre op **intra op**

post op
Fig 1

II. CASE REPORT

A 67 year old female patient with large thyroid mass with retrosternal extension posted for total thyroidectomy .patient had dyspnea , swelling and edema of face . .Airway examination showed large tongue , reduced mouth opening < 3 finger breadth , mallampati grade IV . patient is a known hypertensive and on t.telmisartan 40mg and t.amlodepine 5 mg .patient not on anti thyroid drugs and thyroid profile is normal.

premedicatIion with inj.midazolam 1mg i.v , inj .ondensatron 4 mg i.v prior to the procedure. On arrival to the operative room, standard monitors were attached and patient kept in sitting on a chair with arms extending onto operating table and with neck flexed and chin on chest . The cervical epidural space was identified with an 16-gauge Tuohy epidural needle, at the C7 –T1 interspace using the loss of resistance technique via a midline cephalad approach . A 18-gauge end-holed catheter was then introduced 6 cm into the epidural space. After negative aspiration, the catheter position was confirmed and secured and patient laid supine. The test dose of lignocaine 2% with adrenaline solution (3 mL) was injected via an epidural catheter . vitals [breathing, SpO2, consciousness, heart rate (HR), noninvasive blood pressure and electrocardiogram] were monitored for 5 min for any sign of deterioration . 10 ml of lignocaine 2 % given in graded fashion [3ml / 2min] . surgery started after adequate anaesthesia attained . Anaesthesia maintained with 5ml of 0.5% bupivacine[2 doses] .The patients kept in a state of conscious sedation with midazolam 2mg i.v and fentanyl 50micrograms . verbal communication done with patient for early detection of RLN injury which can ocuur during thyroid surgery .No adverse events during surgery and patient ambulated after surgery .

III. DISCUSSION

Conventional general anaesthesia with endotracheal intubation may not always be possible and even hazardous in certain situations. Endotracheal intubation can become a traumatic procedure precipitating laryngeal oedema occasionally. Anaesthetic gases, Propofol and muscle relaxants can all become arrhythmogenic in the presence of covert or even occult hypo or hyperthyroidism states. As in other situations where general anaesthesia becomes a high risk

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proposition, regional anaesthesia is considered the safer alternative.

The main reasons why cervical epidural anaesthesia has not come into wide clinical usage are fears of its potential complications. These include its effects on respiratory function especially phrenic nerve controlled diaphragmatic movements and cardio-vascular stability. Despite the concern over pulmonary dysfunction with cervical epidural anaesthesia , it is rarely of clinical significance even in debilitated patients.

IV. CONCLUSION

CEA is a safe and reliable technique. It can be easily learnt by anaesthetists who are already familiar with lumbar epidural anaesthesia. The complication rates are low and easily manageable. The risks of diaphragmatic paralysis and hemodynamic stability are present but rarely of clinical significance .

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