

Anaesthetic Management of Non-Thyroid Surgery in a Hypothyroid Patient: Case Report.

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Case Report

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ABSTRACT

A 63 year old hypertensive patient 2 months following total laryngectomy and total thyroidectomy developed left sided neck swelling and stridor posted for urgent radical neck dissection surgery .On investigation he found to be severely hypothyroid. Carefully planned perioperative management facilitated an uneventful recovery of the patient.

INTRODUCTION

The thyroid gland dysfunction that have anaesthetic implications include hypothyroidism, hyperthyroidism and conditions requiring thyroidectomy .Patients with uncontrolled myxedema or those with uncontrolled hyperthyroidism presenting as an emergency, are at considerable risk perioperatively [1]. The incidence of perioperative morbidity associated with undiagnosed or untreated hypothyroidism is unknown, but major complications like severe cardiorespiratory depression, delayed recovery from anaesthesia, hypothyroid coma, following anaesthesia and surgery have been reported.

Case Report

A 63 year old hypertensive patient was posted for urgent radical neck dissection as he had developed left sided neck swelling and stridor two months following total laryngectomy and total thyroidectomy. His preoperative vital signs were normal and thyroid profile revealed severe hypothyroidism. Chest x-ray showed tracheal deviation to right side with emphysematous changes. The electrocardiogram suggested left ventricular hypertrophy with inferolateral ischemia. After explaining the risks involved like cardiorespiratory instability perioperatively, delayed recovery, and need for postoperative mechanical ventilation written informed consent was taken from the patient. The patient was shifted to operating room. Preinduction monitors ECG, pulse oximeter, left radial arterial line were connected. After securing intravenous access with 16G cannula injections Fentanyl 50mcg and hydrocortisone 200mg was given. Patient was preoxygenated with 100% oxygen for 5 minutes then induced with inj. Propofol 120mg and 8.5mm sized armored endotracheal tube was introduced through tracheostomy stoma. After confirming bilateral equal air entry inj. vecuronium 6mg was given and the tube was secured. Post -intubation monitors like endtidalCO₂, temperature probe (nasopharyngeal), peripheral nerve stimulator were connected and warming blanket was used. Patient was maintained on IPPV with O₂:N₂O 2:2 litres and intermittent 0.8% isoflurane. Patient came out of first dose of inj. Vecuronium after 3 hours. Vital signs were monitored and maintained throughout the procedure. At the end of procedure endotracheal tube was exchanged with 8.5mm sized tracheostomy tube and residual neuromuscular blockade was reversed with Neostigmine 3mg and Glycopyrrolate 0.6mg. Once the patient started breathing spontaneously and recovered from anaesthesia shifted to postoperative ward with stable vitals. Remaining part of hospital stay was uneventful.

DISCUSSION

The incidence of hypothyroidism depends on the level of iodine in the diet [2]. The prevalence of overt hypothyroidism in iodine sufficient areas is 5 per 1000 and that for the sub clinical form is 15 per 1000 [3]. Hypothyroidism may result in myocardial depression, decreased spontaneous ventilation, abnormal baroreceptor function, reduced plasma volume, anaemia [4]. Hypoglycemia, hyponatraemia and impaired drug metabolism [5]. Preventative measures should be adopted to protect against hypothermia. Because of an increased incidence of adrenocortical insufficiency and a reduced adrenocorticotrophic hormone response to stress, ypothyroid patients should receive hydrocortisone cover during periods of increased surgical stress [6]. There is several reports of severe cardiovascular and respiratory depression in hypothyroid patients during general anaesthesia. Therefore, hypothyroidism should be considered in any obese, debilitated patient who displays perioperative cardiovascular or respiratory instability.

CONCLUSION

Use of titrated doses of anaesthetic agents during surgery, proper intraoperative invasive monitoring, and preventive measures adopted to protect against hypothermia, hydrocortisone cover during increased surgical stress to encounter reduced adrenocorticotrophic hormone response to Stress, enabled to manage the patient without aggravation of clinical symptomatology of hypothyroidism.

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REFERENCES

1. James M L Endocrine disease and anesthesia, Anesthesia. 1970:23:232-252
2. Mostbeck A, Galvan G, Bauer P et al , The incidence of hyperthyroidism in Austria from 1987 to 1995 before and after an increase in salt iodization in 1990, Eur J Nucl Med. 1998:25: 367-367
3. Lind P, Langsteger W, Molnar M et al Epidemiology of thyroid disease in iodine sufficiency. Thyroid. 1998:8:1179-1183
4. Singh V, Catlett JP, Haematologic manifestations of thyroid disease. Endocrinologist. 1998:8:87-91
5. Murkin JM, Anaesthesia and hypothyroidism- A review of thyroxine physiology, pharmacology and anaesthetic implications, Anaesth Analg. 1982: 61: 371-383
6. Levelle JP, Jopling MW, Sklar GS, Perioperative hypothyroidism: an unusual postanaesthetic diagnosis, Anesthesiology. 1985:63:195-197.