



ANAESTHETIC MANAGEMENT OF A HYPOTHYROID PATIENT POSTED FOR EMERGENCY LAPAROTOMY

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ABSTRACT

Introduction: Hypothyroid patients face greater risks with general and regional anesthesia. In emergencies with high TSH levels, the risks of airway issues, hypothermia, and hypotension are even higher. **Case Report:** A 40/f (P2 L2 A1) presented with severe acute abdominal pain with vomiting posted for emergency laparotomy. K/c/o hypothyroidism since 20 yrs with H/o total thyroidectomy surgery for Multinodular goitre. **Investigations:** MRI Abdomen showed a Right Ovarian Cyst measuring 6x5.3cm with Ovarian Torsion. **PRE OP:** blood investigations normal except for TSH-45 mIU/L. Vitals: Pr-82 bpm, BP-100/60mmHg, spo2-99% **INTRAOP-** 18G IV cannula was placed in her right hand, ECG, NIBP, and pulse oximetry monitors were used. Spinal anesthesia was chosen to avoid complications of hypothyroidism on general anesthesia. Warm fluids and surface warmers were employed to prevent hypothermia. Hypotension (BP 90/40 mmHg) was managed with IV fluids and Ephedrine, and 200 mg of IV Hydrocortisone was administered. The surgery lasted 100 minutes with an estimated blood loss of 200 ml. During the operation, 750 ml of crystalloids and 500 ml of colloids were infused. Post-op, she was shifted to the ICU for monitoring. **Discussion:** The main concern in our case was major blood loss- it's a life threatening condition causing hemodynamic instability with decreased tissue perfusion and hypoxia causing organ damage. The other concerns of hypothyroidism were Airway compromise secondary to swollen oral cavity, edematous vocal cords, Delayed gastric emptying, increased risk of aspiration, decreased adrenal cortical function.

KEYWORDS :

INTRODUCTION

Hypothyroid patients are at an increased risk for a number of reasons when undergoing general and regional anaesthesia. A case taken in an emergency situation with a high TSH value is of more risk as there is high chances for airway compromise, hypothermia and hypotension. These patients can be extremely sensitive to narcotics and sedatives due to reduced cardiac output, blood volume, abnormal baroreceptor function, decreased hepatic metabolism and decreased renal excretion of drugs.

Case Report

A 40 year old premenopausal woman (P2 L2 A1) presented with the complaints of severe acute abdominal pain with vomiting. Patient is a known case of hypothyroidism for the past 20 years. History of total thyroidectomy surgery for Multinodular goitre present. She was now scheduled for emergency laparotomy. MRI Abdomen showed a Right Ovarian Cyst measuring 6x5.3cm with Ovarian Torsion.

Anaesthetic Management

Her pre-anaesthetic evaluation did not reveal any abnormalities except for TSH of 45 mIU/L. Her Pre-operative vitals were Heart rate-82 per minute, blood pressure-100/60mmHg and SPO2 of 99% at room air. On anticipation of prolonged surgery and major blood loss, adequate blood products reserved. On arrival to operating room, she was started on large bore IV cannula (18G) on the right hand and monitors like ECG, NIBP, pulse oximetry were attached. The mode of anaesthesia planned was spinal anaesthesia to avoid the complications of hypothyroidism on general anaesthesia. Warm fluids and surface warmers were used to prevent hypothermia. There was hypotension (BP - 90/40mmHg) which was managed with IV Fluids and Ephedrine. Inj Hydrocortisone 200MG IV was given. Total surgical time lasted for 100 minutes and the blood loss was calculated to be approximately 200ml. Intra operatively 750 ml of crystalloids and 500ml of colloids were infused. Post-operatively patient was shifted to ICU for monitoring.



DISCUSSION

- The main concern in our case was major blood loss- it's a life threatening condition causing hemodynamic instability with decreased tissue perfusion and hypoxia causing organ damage. Adequate blood products were reserved to meet the anticipated major blood loss.
- The other concerns of hypothyroidism was Airway compromise secondary to swollen oral cavity, edematous vocal cords. Delayed gastric emptying due to hypothyroidism increases the risk of regurgitation and aspiration. Warm fluid was made available to prevent hypothermia As hypothermia occurs very quickly and is difficult to treat.
- Surgical bleeding is an emergency with high mortality and it leads to hypovolemic shock-hence requires effective anticipation and treatment.
- Pharmacological support for hypotension is best provided with Ephedrine and may require supplemental steroid (hydrocortisone) administration.
- Steroid coverage with dexamethasone or hydrocortisone is necessary, since decreased adrenal cortical function often accompanies hypothyroidism.

Conflict Of Interest

The authors declare that they have no conflicts of interest.

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The authors declare that they have no competing interest.

CONCLUSION

Bleeding control, adequate tissue perfusion, oxygenation, management of hypotension using ephedrine and IV fluids, intravenous steroids, maintaining normothermia, correction of anaemia, acidosis, electrolyte abnormalities are the key points in successful management of a hypothyroid patient posted for emergency surgery. Preference of spinal anaesthesia is a better choice compared to General anaesthesia to avoid all complications of hypothyroidism like slow metabolism of anaesthetic drugs, hypothermia.

REFERENCES

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