Case Report

Anesthetic management for a case of the right adrenal myelolipma

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Received: 16-08-2022
Accepted: 01-09-2022

How to cite this article:
Gupta A, Shakeel S, Kumar P, Mittal T. Anaesthetic management for a case of the right adrenal myelolipma. Int J Adv Integ Med Sci 2022;7(3):20-21.

Source of Support: Nil,
Conflicts of Interest: None declared.

Introduction: Adrenal myelolipoma is rare benign tumor composed of mature adipose tissue and hematopoietic tissue. It may coexist with primary aldosteronism, congenital adrenal hyperplasia, pheochromocytoma, adenoma, and Cushing's syndrome. Most of the patients present with abdominal pain due to either large tumor or from spontaneous hemorrhage. Therefore, anesthetic management of these patients is quite challenging. **Case Report:** Case of 27-year-old female, ASA Grade II, presented with adrenal myelolipoma of size 10 × 3.5 × 3 cm. Serum cortisol and other routine investigation were found to be normal except hemoglobin (7.2 g/dL). 2 units PRBC transfused to achieve hemoglobin of 10 g/dL. Case was conducted under combined general anesthesia and epidural anesthesia. Patient remained hemodynamically stable intraoperatively and was extubated uneventfully. In intensive care unit, patient became hemodynamically unstable due to intra-abdominal hemorrhage and hemoglobin dropped to 4.5 g/dL. The next 2 consecutive days included transfusion of nine units PRBC, four units FFP, and four units platelets. On post-operative day 3, patient was transferred back to ward with stable vitals and fair general condition. **Conclusion:** As anesthesiologist, management of these patient is challenging in many ways. Care should be taken to keep patient hemodynamically stable especially during intubation. Due to large size and abundant venous supply of tumor, there are higher risks of profuse perioperative blood loss. These patients can be managed conservatively with transfusion of blood products for hemodynamic stability which might reduce the incidence of re-exploration in post-operative period.

KEY WORDS: Adrenal myelolipoma, hemorrhage, hemodynamically stable

INTRODUCTION

Adrenal myelolipoma is rare benign tumor composed of mature adipose tissue and hematopoietic tissue. It may coexist with primary aldosteronism, congenital adrenal hyperplasia, pheochromocytoma, adenoma, and Cushing's syndrome. Most of the patients present with abdominal pain due to either large tumor or from spontaneous hemorrhage. Therefore, anesthetic management of these patients is quite challenging.

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CASE REPORT

A 27-year-old female patient, ASA Grade II came to outpatient department with complaint of generalized weakness, loss of appetite, increased frequency of stools on and off since 3 months. There was no history of increased sweating, palpitations, and resting tremors. She had no history of comorbidities and addictions. Patient was thin built with weight of 38 kg. NCCT and ultrasonography abdomen were suggestive of the right suprarenal mass of size 10 × 3.5 × 3 cm. Contrast-enhanced CT (CECT) suggested well-defined heterogeneous enchanting mass lesion in the right suprarenal region with soft-tissue component and areas of fatty attenuation, hepatosplenomegaly and cholelithiasis. After radiological imaging patient was suspected to have right adrenal myelolipoma and planned for open right adrenalectomy and open cholecystectomy.

All the routine blood investigations were normal except for hemoglobin of 7.6 g/dL for which three units PRBC were transfused before surgery and platelets count of 73,000/cumm. Repeat platelet count came out to be 85000/cumm. Electrocardiogram (ECG) had QRS changes in Lead 3 and aVF lead which was insignificant. Serum cortisol levels were normal. Airway and systemic examination were within normal limits. Chest X-ray, ECG, and 2D ECHO also did not depict any abnormality.

Management

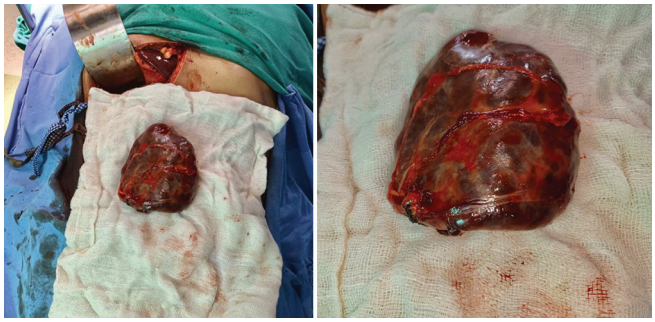
Tab Alprazolam 0.25 mg and Tab. Ranitidine 150 mg were given night before surgery. Plan was combined general anesthesia + epidural Anesthesia. On the day of surgery, patient was shifted to operating room. Vitals were noted. At T12-L1 epidural space, catheter was inserted using 18G tuohy's needle and was fixed at 8 cm. Pre-oxygenation was started with 100% oxygen for 3–4 min. In pre-medication, Inj. Glycopyrrolate 0.2 mg IV, Inj. Midazolam 1 mg IV, and Inj. Fentanyl 100 mcg IV was given. Inj. Propofol 80 mg IV and Inj. Vecuronium 4 mg IV were given and after ventilating for 3 min, ETT of size 7 mm was inserted orally using direct laryngoscopy under vision and fixed at 20 cm. Five-point auscultation was done. A central venous catheter was inserted in the right internal jugular vein under USG guidance and was fixed at 13 cm. Fluid was given according to requirement. Anesthesia was maintained with O_2 + N_2O + Isoflurane and Inj. Vecuronium. Intraoperatively Inj. Esmolol 20 mg was given once in view of tachycardia. Inj. 0.25% Bupivacaine 8 mL was given through epidural route. Surgery was completed in 1 h 30 min. Total input was 1600 mL, urine output was 200 mL, and blood loss was 550 mL.

Patient was reversed and extubated uneventfully. Epidural catheter was kept *in situ* to manage post-operative pain. Patient was shifted with stable vitals. Post-operative vitals – blood pressure – 108/68 mmHg, heart rate – 90 beats/min, respiratory rate – 18/min, SpO_2 – 100% with O_2 at 6L/min through Hudson Mask.

Five h later, patient developed hypotension, tachycardia, and abdominal distention. Urgent bedside whole abdomen USG was performed which revealed intra-abdominal hemorrhage. Hemoglobin dropped to 4.5 g/dL. Urgently PRBC and FFP were transfused. Central venous pressure was monitored 4 hourly and fluid was administered accordingly. The next 2 consecutive days included transfusion of nine units PRBC, four units FFP, and four units platelets. On post-operative day 3, patient was transferred back to ward with stable vitals and fair general condition.

DISCUSSION

- Adrenal myelolipoma is a rare, benign, and hormonally inactive neoplasm of adrenal gland. It is composed of elements of adipose tissue and extramedullary hematopoiesis.[1]
- It occurs generally in unilateral adrenal gland, but the left and the right affected equally. As a benign tumor, myelolipoma does not spread to other body parts. Sometimes, a larger myelolipoma may cause localized tissue death and bleeding.[2]
- They are generally clinically silent, mostly diagnosed as incidental findings on imaging. Usually, CECT of the abdomen is considered the primary imaging modality of choice for diagnosis.
- Most of the patients are asymptomatic. Occasionally, they may present with abdominal pain due to either large tumor or traumatic rupture leading to hemoperitoneum or from spontaneous hemorrhage. It has been associated with several diseases such as cholelithiasis and malignancies of the kidney, bladder, stomach, and lung.
- Tumor of size <4 cm and asymptomatic should be subjected to watchful monitoring while tumors of size more than 4 cm and symptomatic should be operated due to risk of spontaneous rupture with retroperitoneal bleed and suspicion of malignancy on.[3]
- Pre-operative optimization of cortisol levels and management of comorbities if present, intraoperative hemodynamic stability including tachycardia and hypertension and bleeding are the mainstay of anesthetic management. Pressor response due to laryngoscopy should be blunted and depth of anesthesia to be adequate while surgical manipulation of the gland. Since it is a highly vascular tumor, post-operative hemorrhage needs to be looked out for through abdominal distention, collection in the drain and hemodynamics. Watchfulness is the key.



CONCLUSION

As anesthesiologists, management of these patient is challenging in many ways as these kinds of patients need vigilant perioperative management including post-operative intensive care unit care. Attention should be given to keep patient hemodynamically stable especially during intubation. Due to large size and abundant venous supply of tumor, there are higher risks of profuse perioperative blood loss. These patients can be managed conservatively with transfusion of blood products for hemodynamic stability which might reduce the incidence of re-exploration in post-operative period.

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