Indian Journal of Clinical Anaesthesia 2022;9(3):407–408

Content available at: https://www.ipinnovative.com/open-access-journals

Indian Journal of Clinical Anaesthesia

Journal homepage: www.ijca.in

Short Communication

Case of hypertrophic obstructive cardiomyopathy with rhino-orbito cerebral mucormycosis - Difficult airway as anaesthestic challenge

Michell Gualabani[1], Vibhor Gupta[1], Seema Meena[1,*], Ashok Kumar Saxena[1]

[1] *Dept. of Anaesthesiaology and Critical Care and Pain Medicine, University College of Medical Science and Guru Teg Bahadur Hospital, Dilshad Garden, Delhi, India*

ARTICLE INFO

Article history:
Received 27-04-2022
Accepted 14-05-2022
Available online 13-08-2022

Hypertrophic obstructive cardiomyopathy (HOCM) is an inherited genetic cardiovascular disorder. Although patients are asymptomatic invariably but anaesthesia and surgical stress can lead to exacerbation of symptoms due to hemodynamic changes. Our case is of a successful anaesthetic management in a 50 year old male of rhino-orbito cerebral mucormycos (ROCM) with HOCM scheduled for left side maxillectomy and exentration of left eye.

Chest radiograph revealed moderate cardiac enlargement. Electrocardiogram displayed, inverted T waves (V4–V6) and S-T segment depression in leads V4–V6 (Figure 1). Echocardiography revealed severe left ventricular wall hypertrophy with outflow tract gradient of 60 mmHg at rest, increase with valsalva maneuver, EF 55-65%, mild mitral regurgitation, systolic anterior motion of mitral valve. Airway examination revealed mouth opening of 2 fingers with mallampatti score of 4.

Preoperative optimization was done with tablet metoprolol 25mg bd and atorvastatin 10 mg HS. In the operating room standard monitoring was instituted. Defibrillation pads were applied in anteroposterior position. Right radial artery was cannulated and invasive blood pressure monitoring started. Fresh gas flow (FGF) of 10 litres /minute (l/min) with 100% oxygen in Sevoflurane

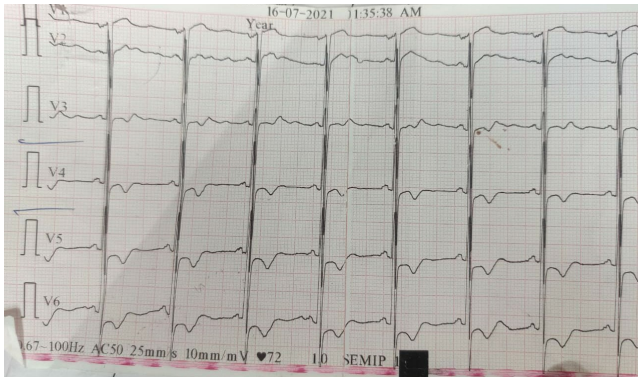

Fig. 1: Preoperative echocardiogram

and maintained to MAC of 1. Inj Xylocard 60 mg i/v was given for pressor response attenuation, 90 seconds before intubation. Trachea was intubated in a single attempt by king vision laryngoscope. Mechanical ventilator was set to achieve normocarbia. Central Venous pressure guided fluids were given to avoid hemodynamic changes in systemic vascular resistance and heart rate.

The intra-operative course was uneventful and Inj xylocard was given 90 sec before tracheal extubation. Post extubation, the hemodynamic parameters were within normal limits.(Figure 2)

* *Corresponding author*.
E-mail address: ssinghal156@gmail.com (S. Meena).

https://doi.org/10.18231/j.ijca.2022.083

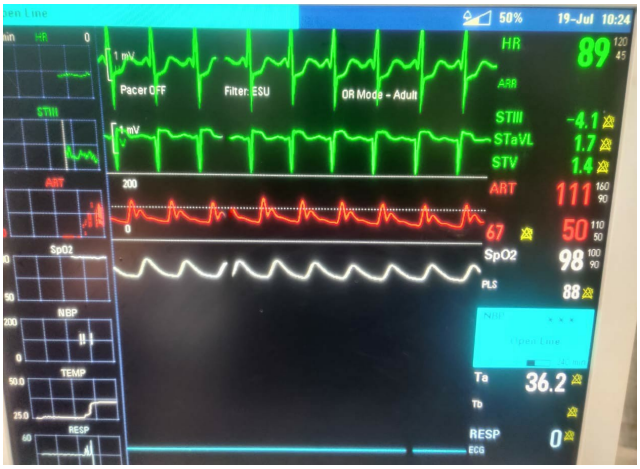

Fig. 2: Intraoperative vitals

Diastolic dysfunction in HOCM makes the myocardium sensitive to changes in volume, systemic vascular resistance and contractility.[1] In our patient, fluid management was guided by serial trends ii CVP similarly described in a case report of HOCM scheduled for thoracotomy.[2] Hypotensive episodes in the intraoperative period needs to be managed with careful volume replacement and vasoconstrictors like phenylephrine and norepinephrine.[2,3]

The American College of Cardiology Foundation guidelines advocates that avoidance of vasodilatation and hypotension are important in the asymptomatic patient with resting or provocable left ventricular outflow tract obstruction, similar to our case.[4] Poliac et al[5] in a commentary of hypertrophic cardiomyopathy advocates invasive monitoring for blood pressure and LV filling pressures in HOCM patients undergoing noncardiac surgery. An arterial before induction to recognize hypotensive events, allowing therapeutic interventions to be instituted in a timely fashion was similarly followed in our case too.

Systolic anterior motion of mitral valve (SAM) in patients with dynamic left ventricular outflow tract obstruction like our case of HOCM is worsened by hypotension, hypovolemia and factors leading to a hyperdynamic circulation. Under anaesthesia SAM can be identified by trans- esophageal echocardiography (TOE) and left ventricular function can also be assessed. This fact has been highlighted by detection of SAM by TOE in case of refractory hypotension.[6] Although we did not have the facility of TOE at our facility which is a limitation, hypotension was treated with bolus of phenylephrine.

Our patient had an anticipated difficult intubation with limited mouth opening hence the King vision video laryngoscope was used to minimize the laryngoscopy and intubation time and pressor response which could have been detrimental in this case.

Major catastrophic complications including myocardial infarction, severe hypotension and malignant ventricular arrhythmias predispose patients of HOCM to morbidity and mortality under anaesthesia. Hence prompt recognition, hemodynamic stability, incident free intubation and extubation are of prime importance in management of HOCM. Video-laryngoscopes are a revolutionary addition to the difficult airway cart of an anesthesiologist making scenarios like this safe, convenient and reliable even in emergency procedures.

Conflict of Interest

None.

References

1. Juneja R, Nambiar PM. Cardiomyopathies and anaesthesia. *Indian J Anaesth*. 2017;61(9):728–35.
2. Kar P, Gopinath R, Durga P, Kumar RV. Anaesthetic management in a case of concurrent hypertrophic cardiomyopathy and constrictive pericarditis: Are there special concerns? *Indian J Anaesth*. 2016;60(3):206–8.
3. Boku AS, Morita M, So M, Tamura T, Sano F, Shibuya Y, et al. General anesthetic management of a patient with hypertrophic cardiomyopathy for oral surgery: Did digitalis contribute to bradycardia? . *Anesth Prog*. 2018;65(3):192–6.
4. Gersh BJ, Maron BJ, Dearani JA, Link MS, Nishimura RA, Rakowski H, et al. A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. 2011 ACCF/AHA Guideline for the Diagnosis and Treatment of Hypertrophic Cardiomyopathy. *Circulation*. 2011;124(24):2761–96.
5. Poliac LC, Barron ME, Maron BJ. Hypertrophic cardiomyopathy. *Anesthesiology*. 2006;104:183–92.
6. Reddy S, Ueda K. Unexpected refractory intra-operative hypotension during non-cardiac surgery: Diagnosis and management guided by trans-oesophageal echocardiography. *Indian J Anaesth*. 2014;58(1):51–4.

Author biography

Michell Gualabani, Assistant Professor

Vibhor Gupta, Assistant Professor

Seema Meena, Senior Resident https://orcid.org/0000-0001-7317-7390

Ashok Kumar Saxena, HOD

Cite this article: Gualabani M, Gupta V, Meena S, Saxena AK. Case of hypertrophic obstructive cardiomyopathy with rhino-orbito cerebral mucormycosis - Difficult airway as anaesthestic challenge. *Indian J Clin Anaesth* 2022;9(3):407-408.