Anaesthetic Management of a Patient with Left Ventricular Clot Posted for Laparotomy

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SUMMARY :

Development of Left Ventricular thrombi is one of the more common complication of Myocardial infarction. Thrombi are important clinically because they can lead to serious embolic complications including stroke. Patients with previous history of Myocardial infarction with evidence of left ventricular clot coming for non-cardiac surgery have increased risk of developing intraoperative catastrophic complications.

The clot can get dislodged in the event of cardiac arrest and CPCR, We are presenting a similar case posted for elective surgery and we have managed this case without any intraoperative catastrophic complications. Though it was uneventful, it could have landed in a morbid event intraoperatively.

KEY WORDS :

Left ventricular clot, Post Myocardial Infarction, CPCR, Embolism.

CASE REPORT :

A male patient, aged 70 years with history of acute anteroseptal and inferior wall myocardial infarction of six months duration posted for elective subtotal gastrectomy with gastric outlet obstruction due to malignancy.

The patient had history of thrombolysis with streptokinase and two days after the thrombolysis he had UMN type of facial palsy with hemi paresis, which gradually improved without any treatment and there was no neurological deficits.

On clinical examination patient was a chronic smoker and he gives history intractable vomiting and recent loss of weight. He was on isosorbitrate mononitrate 30mg, Metoprolol 25mg, Atorvastatin 10mg. On clinical evaluation his exercise tolerance was fairly good with MET of 4, NYHA grade as fair risk. His ESR was 105mm,COPD changes on chest X-Ray with old tubercular and fibrotic changes in left mid zone of lungs, ECHO showed left ventricular segmental hyperkinesia, EF-53% and a soft clot in left ventricular apex measuring 1.7 X 2.2 cm.

He was advised to stop tab. Acenocumerol ; tab Aspirin 75mg, tab.Clopidogrel

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75mg, three days before surgery as per cardiologist advice. He was accepted with ASA grade 3 physical status with high risk consent.

ANAESTHETIC MANAGEMENT

Patient was premedicated with Midazolam and after preoxygenation for 3 min. induction was done with Thiopentone (Slow titrated dose) and intubated with help of succinyl choline (1.5 /kg), inj. Esmolol 1mg/kg was administred to attenuate the laryngoscopic and intubation response. He was maintained with inj. Vecuronium bromide (0.08 mg/ kg) and controlled ventilation with Oxygen, Nitrous oxide (50-50) and Isoflurane (0.2-0.4 %). Intraoperatively Heart rate, blood pressure, temperature, ECG [II, V5], saturation, end tidal CO_2, urine output and CVP were monitored.

The mass was not resectable and gastrojejunostomy and jejunostomy was done. Intraoperatively the patient was stable haemodynamically, adequate warm balanced salt solutions were given and had adequate urine output. The neuromuscular block was reversed with neostigmine 2.5 mg and glycopyrrolate 0.4 mg, Extubated without any complications. Intraoperative & Post operative analgesia was provided with epidural Fentanyl.

DISCUSSION :

Left ventricular (LV) thrombus is a common complication after acute myocardial infarction (MI). The overall incidence ranges from 20 to 40%, and it occurs almost exclusively as a consequence of an anterior MI.

The clinical significance of LV thrombi lies on their potential risk of systemic embolization. In fact, LV embolism after MI resulting in stroke, bowel, and limb ischemia has been reported in literature. In particular, protrusion of thrombus in LV, mobility, and pedunculated appearance are associated with an increased risk of embolization.

K A Johannessen etal studied risk factors for systemic embolisation in patients with ventricular thrombi caused by an acute myocardial infarction in 150 consecutive patients with an infarction of the anterior wall, followed up for three months. Anticoagulation treatment was started only after the detection of thrombi. Of the 55 patients in whom a thrombus developed, 15 (27%) had peripheral emboli between 6-62 days; but only two (2%) of 95 patients without thrombus had emboli. The best single predictors of embolisation were age greater than 68 years (80% sensitive, 85% specific), pendulous thrombus (60%, 93%), and independent thrombus mobility (60%, 85%).

Stratton JR etal studied85 patients with echocardiographically documented left ventricular thrombi. conclude that the incidence of embolic events is definitely increased in patients with left ventricular thrombi compared with control subjects during long-term follow-up.

CONCLUSION :

We wanted to share our experience in this case and invite comments or similar experiences to be shared. These patients can present with arrhythmias and cardiac arrest and may need CPCR during which the clot may get dislodged and cause embolism and further catastrophic events.

Though the risk of embolism was there, in the event of CPR, qualitative evaluation of this risk factor by NYHA is not possible and even if embolism occurs CVP catheter may not be ideal to evacuate a clot and subsequent complications may be inevitable.

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