Journal of Cardiovascular Disease Research

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 5, 2026

EARLY DIAGNOSIS AND INTERVENTION OF PERIOPERATIVE MYOCARDIAL INJURY AFTER ABDOMINAL SURGERY IN A POST-PTCA PATIENT: A CASE REPORT

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ABSTRACT:

Postoperative myocardial infarction is associated with increased mortality and morbidity for patients undergoing non-cardiac surgery. In this case report, a patient with PMI was diagnosed immediately, and earlier percutaneous cardiac intervention in the Cath lab saved the patient. Immediate coronary stenting after major non-cardiac surgery, though it possesses a risk of bleeding at the surgical site due to starting anti-coagulants and antiplatelets, must be decided on weighing the risk-benefit ratio.

Keywords: postoperative; myocardial infarction; non-cardiac surgery; coronary stenting; emergency PCI; immediate postoperative period

MAIN TEXT:

Dear Editor,

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Perioperative myocardial infarction (PMI) is associated with increased mortality and morbidity in non-cardiac surgeries. Here, a patient with PMI was diagnosed immediately, and earlier percutaneous cardiac intervention saved the patient. Immediate coronary stenting after major non-cardiac surgery, though it possesses a risk of bleeding at the surgical site due to starting anti-coagulants and antiplatelets, must be decided on weighing the risk-benefit ratio. Our patient had typical symptoms of ongoing MI, which was diagnosed immediately, and earlier PCI saved the patient.

A 71-year-old female patient with complaints of abdominal pain, vomiting, and constipation was diagnosed with small bowel adhesion and posted for emergency laparotomy and open adhesion-lysis. She was a known case of diabetes mellitus, systemic hypertension, and coronary artery disease. PTCA stenting was performed on the RCA and the 1st Diagonal (D1) branch in 2013. She was on Metoprolol 25 mg OD, Rosuvastatin 40 mg HS, Nifedipine 10 mg BD, Clopidogrel 75 mg, Aspirin 75 mg, and Esomeprazole 40 mg.

Preoperative physical examination, chest X ray & investigations were normal. Baseline ECG showed a Q wave in lead III. Airway examination showed Mallampati III with adequate mouth opening and a short neck. Her ASA physical status was III. After receiving her in the preoperative room, an 18-G IV cannula was secured and pre-medicated with 1 mg Midazolam intravenously (IV), and her baseline vital signs were blood pressure of 130 / 80 mm Hg, pulse of 70 beats per min, and SpO2 of 98 %. Induction of general anesthesia and endotracheal intubation was uneventful with a bolus drug of 2 % Lidocaine100 mg, Propofol 100 mg, Fentanyl 200 µg, and Succinylcholine 100 mg. Anesthesia was maintained with 50 % Oxygen-Air mixture, Sevoflurane of 1 - 2 % concentration and a bolus dose of Cisatracurium. Vital signs were maintained within 20 % of the patient's baseline values throughout the case. As the patient was on Clopidogrel, epidural insertion was not performed. Intraoperative vitals were maintained with adequate urine output.

By the end of the 1.5 h of surgery, paracetamol 1 g and dexamethasone 8 mg were administered for postoperative pain and inflammation. Extubation was uneventful, and the patient was transferred to the Post Anesthesia Care Unit (PACU) with a VAS score of < 4. In the PACU, fentanyl infusion was started for analgesia, and the patient was comfortable with no pain. After 3 hours of surgery, in the PACU, the patient suddenly complained of left upper limb pain with BP – 140 / 72 mm Hg, pulse rate – 62 / min, SPO2 -98 % with 4 l of oxygen

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per minute. ECG showed ST elevation; hence, a 12-lead ECG was taken and samples sent for troponin I. Meanwhile, the patient was treated with tablet Isosorbide dinitrate, 4 mg Morphine and a bolus dose of 5000 IU Unfractionated heparin after informing the surgeon. 12-lead ECG showed evolving anterior wall myocardial infarction with ST elevation in V2-V6.

The patient was planned for PCI and shifted to the Cath lab. Coronary Angiogram (CAG) showed double-vessel disease with 95 % occlusion to proximal LAD, In-stent restenosis (ISR) of D1 (1^{st} diagonal branch of LAD), 80 % stenosis to mid RCA (Fig. 1), hence primary PCI to LAD & balloon angioplasty to D1 ISR was done under high risk (Fig. 2). PCI to RCA was planned later.

Post procedure, the patient was put on Nicorandil 2 mg / h, Ticagrelor 90 mg. After the procedure, the left upper limb pain had settled. The patient had a stormy postoperative period with surgical site oozing; hence, heparin was withheld, and antiplatelet therapy continued. Postoperative ECHO – LVH, EF – 61 %. There was a rise in renal function test with serum urea- 131, serum creatinine- 3 due to contrast-induced nephropathy, which got settled after 3 days with proper renal support. Chest care was given with incentive spirometry & chest physiotherapy. Once the abdomen had settled, oral drugs continued & the patient got discharged on the 11^{th} postoperative day.

Though PMI is associated with a very high mortality rate, adequate preventive measures, vigilant monitoring and timely intervention can save lives from deadly complications. Interventions requiring post-procedural anticoagulation, such as PCI, should be considered when weighing the risk-to-benefit ratio in cases of postsurgical patients with high bleeding risk.

Fig. 1: **Pre-PCI CAG**

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 5, 2026

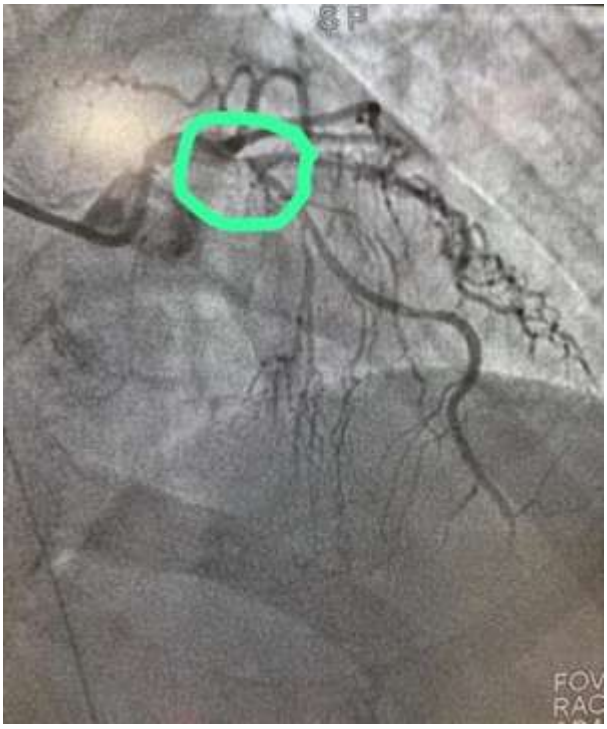

Fig. 2: **Post-PCI CAG**

ACKNOWLEDGEMENT:

We acknowledge the cardiologist, the surgeon, and the intensivists involved in managing this case.

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 5, 2026

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