



LACTATING MOTHER WITH BREAST CARCINOMA A RARE CASE AND ITS ANAESTHETIC IMPLICATIONS

Anaesthesiology

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ABSTRACT

Inflammatory breast cancer accounts for 1-5% of all breast cancers⁽¹⁾. It is more common in pregnant and lactating women. Black women seem to have higher risk. Carcinoma breast metastasizing to pleura and pericardium is common. Though pericardial and pleural effusions are common they are not the initial manifestations. This report describes a case of Left Inflammatory breast carcinoma in a 28 year old female who was operated for lumpectomy 6 months back, now presented with recurrence of Carcinoma with left sided moderate pleural effusion and severe anemia. Now posted for Left Modified Radical Mastectomy with Axillary Dissection.

KEYWORDS

Inflammatory Breast Carcinoma, Malignant Pleural Effusion, Anemia.

INTRODUCTION-

Anesthetic consideration in the patient posted for breast surgery has an important effects on the patient outcome. Therefore consideration of complications of the breast cancer and selection of appropriate anaesthetic technique is important for long term outcome. Here we are discussing the case of inflammatory breast carcinoma (IBC), with cancer related complications like malignant pleural effusion and severe anemia with deranged coagulation profile posted for modified radical mastectomy (MRM) with axillary dissection. We planned general anaesthesia with postoperative regional block for analgesia to prevent post operative opioid related complication.

CASE-

A 28 year old female patient (weight=40kg) presented with painless ulcerative lump in breast on left side for which she underwent biopsy. Histopathology revealed Inflammatory Breast Carcinoma Grade III. Posted for MRM with Axillary Dissection. Patient had complaint of breathlessness Grade III NYHA associated with cough since 10 days. H/O weight loss (8kgs) over a period of 4 months. She was operated case of lumpectomy 6 months back i/v/o Grade I Inflammatory Breast Carcinoma, she failed to follow up and now presented with recurrence. She underwent full term normal vaginal delivery 7 months back. No any known comorbidities.

General Examination- Afebrile, Pulse-120/min, regular, BP-104/60mmHg, RR-22/min. Pallor++, Axillary lymphadenopathy++. No icterus, clubbing, cyanosis, edema. CVS-S1S2+, Ejection systolic murmur+. RS- Air entry decreased on left side (LT>RT), Left sided Crepts++. CNS and P/A- NAD.

Local Examination- Left breast swelling in inferio-medial and inferio-lateral quadrant, skin discolouration +, hard in consistency, fixation to breast +, not fixed to chest, purulent discharge in nipple areola complex. (figure 1). Right breast- Normal. Oral cavity- MOA, MPC-III. (no loose or missing tooth). Neck movement- Normal flexion and extension.

INVESTIGATIONS-

Hb-4.65, Tlc- 12580, Platelet count-3.34 lakhs. PT- 22sec, INR-1.62. Others investigations were within normal limits. **ECG**-sinus tachycardia. **CXR**- left moderate pleural effusion. (figure 2). **USG Thorax**-Left moderate pleural effusion (400ml). Chest medicine reference was taken and accordingly thoracocentesis was done. 350ml pleural fluid was tapped, suggestive of Malignant pleural effusion. **Repeat CXR** was done which was radiologically better but still had blunting of Left CP angle. (figure 3). **2D Echo** NAD.

PLAN OF ANAESTHESIA- General Anaesthesia with post operative PEC I and PEC II block.

GOALS-

To maintain Normal sinus rhythm, to maintain intra-operative hemodynamic stability within 5-10% of pre op levels, to maintain adequate oxygenation, to avoid hypoxia, hypercarbia, acidosis and hypothermia, to provide adequate intra-op and post-op analgesia, to maintained adequate hydration, to replace blood loss with adequate blood and blood products.

Pre-op Preparation-

Patient was optimized pre operatively by giving adequate PCV and FFP. Written informed consent was taken. High risk consent was taken. NBM status was confirmed. Wide bore IV access was secured. Site and side of surgery was confirmed. Anaesthetic drugs were kept ready. Emergency resuscitation drugs and equipments were kept ready. Difficult intubation trolley was kept ready. Multipara monitors (pulse oximetry, non invasive BP monitoring, ECG) attached. Warming blankets kept ready. Fluid warmer kept ready. Adequate blood and blood products reserved.

General Anaesthesia-

Patient was pre oxygenated with 100% oxygen for 3 mins. Patient was pre-medicated with Inj. Glycopyrrrolate 4mcg/kg IV, Inj. Midazolam 0.03mg/kg IV, Inj. Ondansetron 0.1mg/kg IV, Inj. Fentanyl 2mcg/kg IV, Inj. Loxicard 2% 1mg/kg IV. Anaesthesia was induced with Inj. Propofol 2mg/kg IV, Inj. Vecuronium 0.08mg/kg IV. Intubated under Direct Laryngoscopic View with ETT No 7.5, air entry decreased on left side. Patient maintained on Nitrous oxide, O2 and Sevoflurane. Inj. Paracetamol 15mg/kg IV was given as analgesia. Surgery lasted for 3 hours. Intra operatively patient was haemodynamically stable. Intra op blood loss- 1200ml replaced with equal amounts of blood products. Urine output- 1700ml. Patient was reversed and extubated and was shifted to PACU.

As patient had local infection and deranged coagulation profile thus we avoided regional anaesthesia pre operatively and we planned post operatively PEC I and PEC II block (Pectoral Nerve Block) for analgesia.

PEC I BLOCK-

Patient placed in supine position with head tilt to right side. Under all aseptic precautions high frequency linear probe placed inferior to clavicle. Left Pectoralis muscles identified. With the help of In plane approach with 22G, 100mm needle, Inj Bupivacaine 0.125% 10 ml and Inj Fentanyl 15mcg injected in between left Pectoralis Major and Pectoralis Minor muscle at the level of 3rd rib. It will anaesthetize lateral and medial pectoral nerves.

PEC II BLOCK-

Patient placed in supine position with hand slightly abducted to 90 degrees. Under all aseptic precautions high frequency linear probe

placed at the mid clavicular level and angled inferolaterally. Left pectoralis minor and serratus anterior muscle identified at the level of 4th rib. With the help of In plane approach with 22G, 100mm needle, Inj Bupivacaine 0.125% 10 ml and Inj Fentanyl 15mcg injected in between left Pectoralis minor and serratus anterior muscle plane. It blocks the lateral branch of the intercostals nerve, intercostobrachial and long thoracic nerve.

POST-OPERATIVE COURSE

Patient was hemodynamically stable in post op period. Post op analgesia was present for 20 hours of block. Rescue analgesia was given after 20 hours on patient demand with Inj Paracetamol.

Post op CBC was- Hb-10.8gm/dl, PT- 13.2, INR-0.98.

Postoperatively we referred patient to Oncosurgeon, He advised postoperatively chemoradiation. We counseled patient for the same.

DISCUSSION

Inflammatory breast Carcinoma (IBC) is rare and accounts only 1-6% of all breast cancers⁽¹⁾. It gets its name from the symptoms that are similar to a breast infection. It tends to occur in young pregnant and lactating women. It grows and spreads faster than other types⁽²⁾. In about 1 in every 3 cases, it has already metastasized to distant parts of the body when it is diagnosed. Women with IBC tend to have worst prognosis. It has a high recurrence rate⁽²⁾. It is generally considered stage IIIB breast cancer when it is first diagnosed.

Malignant pleural effusions (MPE) is the accumulation of fluid and cancerous cells in the pleural space secondary to malignancy. MPE is the most common complication of Inflammatory breast Carcinoma, usually associated with breathlessness, cough and chest pain. It accounts for 50-65% of malignant pleural effusion. The best method is symptomatic treatment of pleural effusion, prevent its reaccumulation by thoracentesis, catheter placement and VATS. A malignant pleural effusion is exudative⁽³⁾. A lower pleural fluid pH, glucose concentration <60mg/dl, protein concentration of about 4mg/dl and cancerous cells and is associated with poor survival. Paraneoplastic effusions (also known as paramalignant effusions) are effusions seen in tumors without direct pleural involvement and no evidence of malignant cells in pleural fluid. It is important to differentiate between MPE and PME.

Anemia is the most common hematological abnormality in patients with cancer. Anemia in Cancer patients may result from combination of non- cancerous etiologies like bleeding, hemolysis, hemoglobinopathies, nutritional deficiencies and cancer related etiologies. The goal of anemia evaluation is to identify the underlying cause. Anemia of cancer due to activation of immune system which decreases erythropoiesis. Tumors can also induce cytokine production leading to depletion of iron thereby decreasing RBC production. Inflammatory breast Carcinoma is highly vascular, accumulation of blood in the cancer tissue, so there is increased incidence of Anemia. Chemotherapy induced anemia is common due to myelosuppressive cytotoxicity of the chemotherapeutic agents.

Primary consequences of severe anemia is inadequate tissue oxygen delivery which may lead to tissue hypoxia, biochemical imbalance, organ dysfunction and organ failure. Therefore, early diagnosis of etiology and treatment is mandatory in pre operative period. Tachycardia and hypotension are important clinical signs of anemia therefore restoration of blood volume and maintenance of cardiac output during anaesthesia is necessary. So, in our case we transfused adequate blood products pre operatively to prevent complications due to anemia. Adequate pre oxygenation and maintenance of normothermia is important in anemia as shivering increases oxygen consumption.

General anaesthesia with regional anaesthesia is the most commonly used technique for breast surgery. Here, we avoided epidural anaesthesia and paravertebral block because of deranged coagulation profile of patient. And as it was a inflammatory breast carcinoma with purulent discharge we avoided interfascial plane blocks preoperatively. And we planned PEC I & PEC II block postoperatively for analgesia as there is no local infection after tumour excision. There are multiple beneficial effects of regional analgesia on the postoperative outcome, these include decreased need of opioid for postoperative analgesia therefore decreased incidence of

postoperative nausea & vomiting, Less postoperative pulmonary complication, decreased post anesthetic care unit stay⁽⁴⁾.

There is beneficial effects of regional anaesthesia and analgesia on the long term surgical outcomes. Regional anaesthesia reduces cancer progression by attenuating surgical stress response, better analgesia and by direct protective action of local anaesthetic agents on the cancer cells migration. Therefore regional blocks are cancer protective by inhibition of TNF- α -induced Srcactivation and intercellular adhesion molecule – 1 phosphorylation, inhibition of epidermal growth factor receptor^(5,6,7,8). Opioid and volatile anaesthetics have been associated with immunosuppression and thus the incidence of tumour recurrence therefore regional anaesthesia is preferred over general anaesthesia^(9,10).

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