Letter to Editor

Anaesthetic and perioperative management of elderly female with post covid bacterial pneumonia and ARDS undergoing emergency laparotomy for obstructed umbilical hernia

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Dear editor,

POST-COVID patients presenting for emergency surgery requires evaluation of surgical illness and COVID-19 (novel corona virus 2019) sequelae like oxygen dependency, acute respiratory distress syndrome(ARDS), cytokine storm, bacterial infection, renal and liver dysfunction. They need better analgesia in perioperative period to prevent further decline in respiratory function. Atrial flutter in perioperative period may lead to haemodynamic instability and thromboembolic events. Emergency laparotomy and post-operative management in these patients is an anaesthetic challenge.

An 81 year old female with BMI 33kg/m2, hypertension and atrial flutter was scheduled for emergency laparotomy for obstructed umbilical hernia. Patient was on telmisartan-40mg, Amiodarone-100mg, Diltiazem-10 mg and Furosemide-40mg orally. Patient had been recently treated for COVID-19 pneumonia and discharged on home oxygen one week ago and was on 17th day of COVID-19 illness. Patient was conscious, heart rate(HR)-82/minute, blood pressure(BP)-110/40mmHg, saturation(SpO2) 85-88% on room air and 95% with 5L/minute oxygen, respiratory rate(RR) of 28-30/minute. Abdominal mass of 8x6x6cm2 was palpable in umbilical region. Bilateral extensive crepitations heard on auscultation of chest. Sequential organ failure assessment score(SOFA)-4/24. Reverse transcription-polymerase chain reaction (RTPCR) for COVID-19 was negative. Chest radiograph showed bilateral extensive infiltrates. Computed tomography(CT) thorax showed -08/25(CT-severity score). Electrocardiogram (ECG) showed right bundle branch block. Echocardiography (ECHO) showed concentric left ventricular hypertrophy, diastolic dysfunction and ejection fraction-55%. Lactate-2.1mmols/L, procalcitonin-4.6ng/dl, C-reactive protein(CRP)-46mg/L and other laboratory investigations were within normal limits.

High risk consent was obtained. One liter of Intravenous fluid(IV fluids) bolus given; BP improved to 130/72mmHg. Patient was haemodynamically stable and coagulation parameters were normal hence combined spinal epidural anaesthesia (CSEA) was planned. CSEA may have been chosen in view of recent COVID infection and thus poor respiratory function. However, in laparotomy where extensive bowel handling, possibility of sepsis and need for prolonged ICU admission are chief concerns it is better to conduct the case in general anaesthesia, especially since the patient had a history of cardiac arrhythmia. Epidural catheter was secured at L1-L2space. Spinal anaesthesia was administered at L3-L4space with Bupivacaine heavy

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and kidney dysfunction. Pneumonia, myocarditis, gut ischemia, shock and imbalance were present. Pre-digested feeds started orally. Patient was ambulated. Lactate-1.4 mmol/L. Bowel movements present. Liquids and oral feeds started. Clear liquids started orally. Enhanced recovery, opioid sparing analgesia and ERAS protocol enhanced recovery. Adequate analgesia ensures optimal ventilation, pulmonary mechanics and reduces post-operative pulmonary complications (PPC). CSEA has fewer deleterious effects on respiration and dynamics when compared with general anaesthesia and reduces PPC in COVID-19 patients with already compromised lungs. The main problem of CSEA is accelerated hypotension, ventilatory changes and diaphragmatic irritation leading to pain and discomfort. Factors which delay recovery after laparotomy are pain, lack of gastrointestinal function and immobility. Therefore management should include pain control, to promote gastrointestinal function and mobility as soon as possible.

**Conflict of Interest**

The authors declare no conflict of interest.

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**References**


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