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Letter to Editor

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Anesthetic consideration in Meigs syndrome with large pleural effusion and lung collapse

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Meigs syndrome (MS) is characterized by a benign ovarian tumor (fibroma), hydrothorax on the right side, and ascites; which can be resolved permanently after surgery. Available literature reveals that most MS surgeries were performed under general anesthesia (GA)[1]. However, GA poses major risks to the patient. Considering the high risk of gastric content regurgitation, poor general condition or dyselectrolytemia may lead to delayed arousal, and associated multi-organ dysfunction. Intraoperative mechanical ventilation is also difficult due to ascites and hydrothorax (reduced cardiac output, impaired ventilation-perfusion in lungs causing hypoxia and hypercapnia)[1,2]. In this letter, we report a case of MS tumor resection under the subarachnoid block (SAB) to mitigate these issues and also review the complications associated with both techniques.

Written informed consent was taken from the patient's legal surrogate. A 56-year-old female patient with a case of MS was posted for laparotomy. Gross ascites and sizeable pleural effusion on the right side were noted, with subjacent right lung collapse and mediastinal shift to the left (Figure 1A). Computed tomography imaging revealed a large (11 cm × 8 cm) heterogenous, solid, and cystic mass, arising from the right ovary (Supplementary Figure 1). Based on Tru-cut biopsy and fluid cytology, a tentative diagnosis of MS was considered. A right intercostal drain was inserted 24 hours before surgery, and around 1 L of fluid was drained. Intravenous access and non-invasive monitoring as per protocol were established and 2.8 mL 0.5% bupivacaine (H) at L2-L3 level was used for SAB.

Laparotomy revealed a solid white right ovarian tumor of 13 cm × 10 cm with approximately 2 L of ascites (Figure 1B). During the surgery, the patient developed persistent severe hypotension, which required repeated bolus of IV fluids, and vasoconstrictors. A total of 3 L of IV plasmalyte, 15 mg of mephentermine, and 300 mg of phenylephrine was used intraoperatively. Infusion of norepinephrineat 0.05-0.10 mg/kg/min was required for about 90 min starting from the middle of surgery and tapered off in the post-operative unit. The patient had an uneventful recovery. The intercostal drain was removed on day 7 and she was discharged on the 10th day after the surgery (Supplementary Figure 2).

Patients with MS present with pressure symptoms like breathlessness, cough, and abdominal distension arising out of pleural effusion and ascites[3]. GA has been used traditionally for this surgery but is associated with potential anesthetic challenges as mentioned above. Neuraxial anesthesia, on the other hand, avoids the use of airway instrumentation, along with positive pressure ventilation, which can provide a better analgesia experience as well as protection against blood loss and venous thromboembolism[4]. Considering its benefit over the traditional GA, we decided to undertake the surgery under SAB. However, when using SAB, its risks also needed to be taken into mind, such as inadequate anesthesia, and hemodynamic instability. The risks

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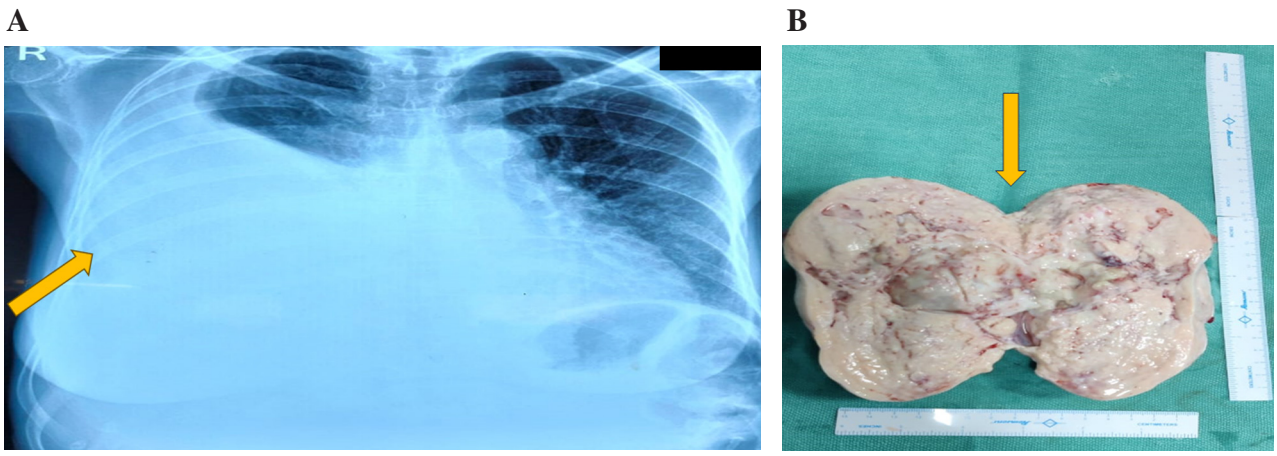

Figure 1. (A) Preoperative X-ray image of chest of a 56-year-old female patient showing large pleural effusion on the right side (arrow). (B) Image showing a large resected tumor (arrow).

can be exaggerated by the liberal use of drugs and pre-existing hypovolemia. We encountered profound hypotension in our patient.

While deciding to operate on a case of MS, the anesthesiologist should decide upon a modality of anesthesia that is best befitting for a patient. SAB with an adequate dosage of the drug provides the appropriate level of block for this surgery. Intraoperative hypotension is transient and can be managed with pharmacological intervention. SAB is thus, a feasible alternative to GA for tumor excision in MS.

Conflict of interest statement

The authors report no conflict of interest.

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Authors' contributions

SS and DM collected the data; DKP and MS contributed in writing the manuscript. All authors read and approved the final manuscipt.

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