

Perioperative Fluid Management of a Patient with a Long Standing Huge Uterine Mass and Ascitis with Anticipated Severe Hypotension

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1. Background

The goal of intravenous fluid (ivf) administration is to restore and maintain tissue and electrolyte haemostasis and central euvolaemia, while avoiding salt and water excess [1]. Liberal fluid administration ≥ 6 litres intraoperatively can lead to postoperative weight gain (reflecting tissue oedema). On the other hand, excessive fluid restrictions lead to adverse events, particularly acute kidney injury. Therefore there is a need to strike a balance in fluid administration to avoid complications while replacing fluid in patients.

We present the management of a 52-year-old woman with long standing huge degenerating uterine fibroid co-existing with massive ascites. Management involved the use of fluid, vasopressors and positioning (leg up).

The aim of this presentation is to highlight the management of hypotension perioperatively following anticipated massive fluid loss.

2. Case Report

She was a chronically ill-looking 52-year-old woman weighing 100kg who presented with a long standing very huge uterine fibroid and massive ascites. The abdomen was pendulous, looking like a woman with multiple gestations. Abdominal ultrasound showed a huge degenerating uterine fibroid mass with ascites. She was optimized before surgery. Combined spinal and epidural anaesthesia were the anaesthetic technique used. She was preloaded with 1litre normal saline (1 L N/S) after establishing two intravenous lines with wide bore cannulae. Premedications given

were; Intravenous atropine 0.6mg and metoclopramide 10mg. The atropine served to reduce secretions which she was noted to be complaining of while metoclopramide was to reduce the chances of vomiting since it was a full stomach. Putting her in a sitting position for combined spinal and epidural anaesthetic procedure was awkward for her. A quick and proper anaesthesia needed to be instituted and so an experienced anaesthetist handled the case.

Intravenous ephedrine 6mg was given shortly after instituting the epidural catheter and before spinal anaesthesia was given. The use of ephedrine was prophylactic against the possible hypotension that may follow spinal anaesthesia especially in full stomach patients. Supine positioning was also challenging after giving anaesthesia as it caused some respiratory discomfort for her. She was tilted to the left lateral positioning to avoid compression of the inferior vena cava. She was given intranasal oxygen because supine position caused significant splitting of the diaphragm leading to respiratory distress and desaturation. Another 1 L N/S was given as part of the fluid deficit and maintenance therapy after spinal anaesthesia and before starting the surgery. There was a quick fluid replacement after a massive fluid loss intraoperatively. The combined ascitic fluid that was suctioned and the one that poured away were estimated to be four and a half litres (4.5L). At the initial hypotension, vasopressor was added to the fluid. A total of 5 litres of fluid was given intraoperatively.

In spite of all the fluid therapy measures we took we still had severe hypotension that was further managed by adjusting the foot of the operating table to raise the feet of the patient. This helped to improve the patient's blood pressure.



Figure 1: Shows the patient just before surgery.



Figure 2: Shows left lateral positioning of the patient after giving anaesthesia.



Figure 3: Shows some of the multiple fibroid location.

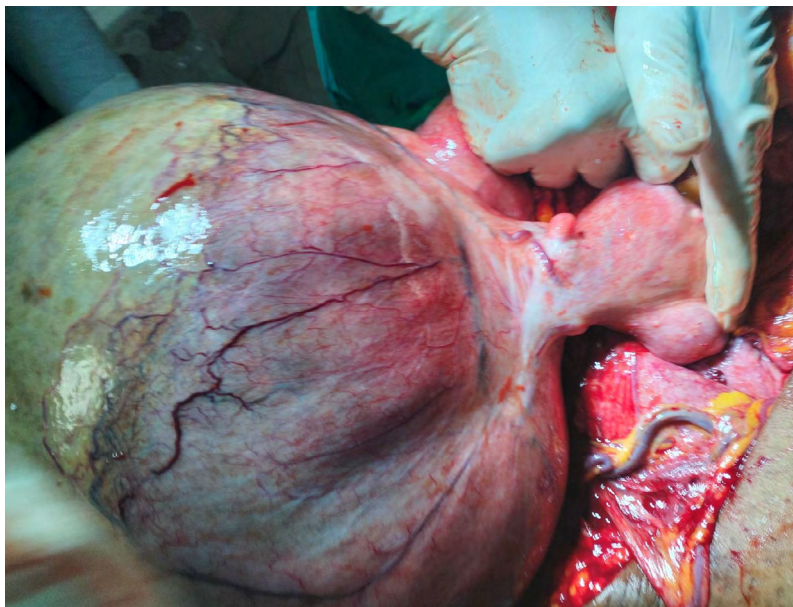


Figure 4: Demonstrates a huge pedunculating fibroid mass.



Figure 5: Shows the biggest fibroid that was removed.

3. Discussion

The overall goal of management of major surgery should be of moderate liberal approach with positive fluid balance at the end of the surgery. This can be achieved with intraoperative fluid of approximately 3 Litres or greater depending on blood loss, type of surgery and duration of the procedure. Passive leg maneuver transfers about 300ml of venous blood into the right atrium, mimicking a fluid bolus [2]. In our own case there was a massive fluid loss and prolonged duration of surgery and so more than up to 5 litres of fluid was used. Anaesthesia management involved fluid replacement, use of vasopressors and feet elevation to improve intravascular volume and oxygen delivery to the tissues.

4. Conclusion

Proper anaesthetic planning involving adequate fluid therapy, use of vasopressor and feet elevation will lead to improved outcome in huge intraabdominal masses coexisting with ascites, involving anticipated large fluid loss.

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