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Giant Ovarian Cyst Anesthetic Management and Challenges

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Abstract: ***With ever increasing availability of diagnostic modalities, improved health care, better equipped hospitals and availability of specialists huge abdominal tumours are very rarely seen in modern day surgical practice. Any increase in the abdominal size due to any cause may present many challenges to anesthesiologists. Difficult or failed intubation, due to increased abdominal pressure, life threatening cardiovascular and pulmonary complications due to decreased FRC are commonly encountered. Management of such cases is associated with significant mortality and morbidity. The successful outcome of any surgery undertaken for removal of abdominal mass depends on the size of the mass, its adherence to peritoneum rather than to its distinctive pathology. We hereby report a rare case of a giant ovarian cyst weighing 11kg, which was successfully managed by a careful pre-operative evaluation, maintenance of intraoperative hemodynamic monitoring, judicious fluid management and using Spinal Anesthesia.***

Keywords: anesthesia, spinal anesthesia, general anesthesia, ovarian cyst, pulmonary and cardiovascular complication, spinal adjuvants, difficult intubation, failed intubation, obesity, abdominal mass

1. Case Report

A 44 year old female ASA II and MPS grade 3 presented with an abdominal swelling which was gradually increasing in size over the past 7years. This made her difficult to carry out day to day activities along with breathlessness. She weighed 87kg, with a circumferential abdominal girth which measured 120 cms. The umbilicus was everted and engorged vein were seen all over the abdomen. The patient became dyspnoeic on lying supine. Blood investigations revealed Hb 13.1gm% and platelets 128000/$mm^{3.}$ Other blood investigations were normal. Her blood pressure was 168/88 mm of Hg for which she was taking amlodipine 5mg daily. Her Electrocardiogram (ECG), echocardiography (ECHO) and chest X ray was normal. Her USG scan reported a well defined multiloculated cystic lesion of size 21.5x19.8x19 cm in the abdominopelvic region, no vascularity/ calcification/ mural nodule/septation seen. Patient had undergone total abdominal hysterectomy 10 years back. The patient was scheduled for an exploratory laparotomy, with excision of cyst. Pre-operatively, adequate units of cross matched blood and platelets were arranged.

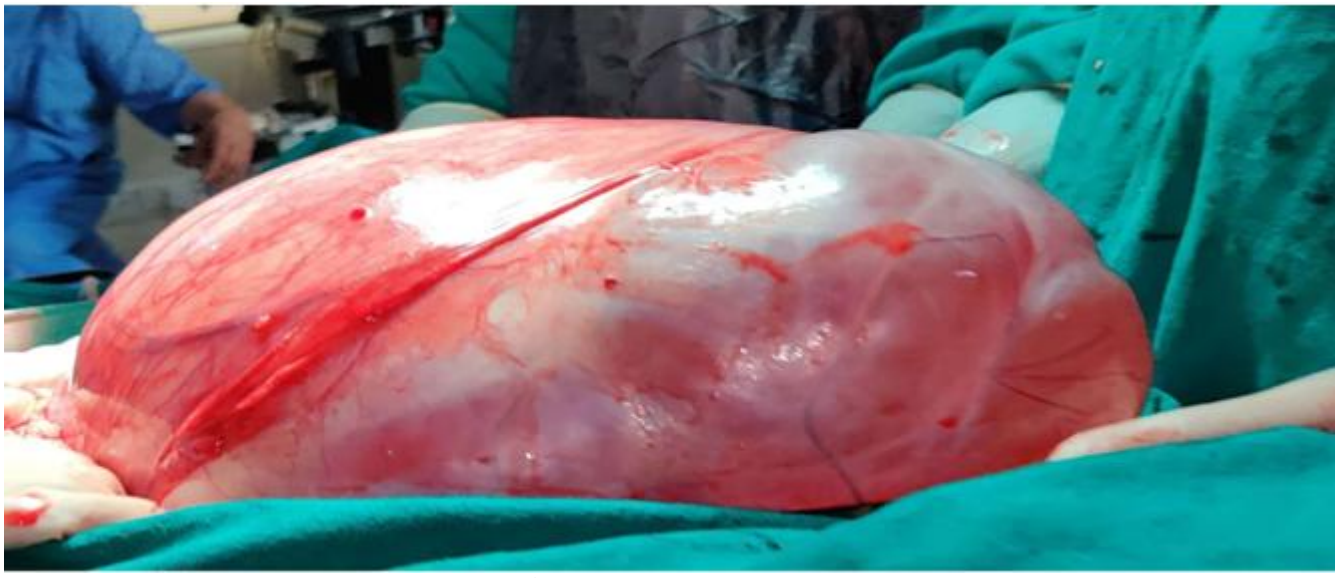

Figure 1: Giant ovarian cyst

On the day of surgery the patient was premedicated with H_2 receptor blocker and anxiolytic. Patient was taken to the operation theatre and all the standard monitoring including ECG, $SPO_{2,}$ intermittent NIBP was attached. IV line was secured with two 18G cannulas and fluids were attached and monitored. We chose Central Neuraxial Blockade/ Sub Arachanoid Block as choice of anesthesia, as it is cheaper, easy to administer and time saving. Moreover it prevents catastrophic elevations of blood pressure which is sometimes seen during intubation which is life threatening for a hypertensive patient. Patient was made to sit in a comfortable position, with all aseptic measures undertaken,

dural puncture was done at the level of L3-L4 with 26G quinke's needle and after aspiration of CSF 3.2ml of.5% (H) bupivacaine +20ug of fentanyl was given. After achieving sensory blockade upto level of T4 surgery was allowed to proceed. Blood pressure was maintained with crystalloids and occasional usage of vasopressors. Surgery lasted for almost 2 hrs with blood loss of 400ml. Blood pressure and other parameters remained normal during the OT and PACU. After careful observation patient was shifted to ward with 24 hr monitoring of all vital signs and urine output. Patient was observed closely for 72hrs. She had an uneventful recovery and was discharged form hospital on 7th day.

2. Discussion

Large abdominal tumours are very rare in this era, thanks to greater health awareness and access to medical care and diagnostic modalities, it is unlikely that such patients remain undiagnosed. The two most common types of ovarian neoplasm are serous [1, 2] and mucinous cystadenomas. The potential complications of these cysts are torsion, hemorrhage and rupture. Surgical management of cysts is done by laparotomy or laparoscopic cyst excision [3]

Huge abdominal tumours of any origin interfere with respiration by elevation, splinting of the diaphragm and flaring of rib cage. This leads to marked dyspnoea in patients in supine position. Large abdominal tumours cause supine hypotension syndrome due to aortocaval compression [4]. In these patients, the blood pressure is kept stable by maintaining a balance between the reduced cardiac output and peripheral vasoconstriction. Other symptoms in such patients is dyspepsia and increased gastric reflux. This may have increased chances of aspiration of gastric contents during intubation and administration of general anesthesia. We avoided general anesthesia in this patient due to risk of difficult of failed intubation as well as increased risk of aspiration. Moreover there are few case reports in which epidural anaesthesia was administered for decompression of cysts, without producing any circulatory depression or pulmonary edema [5]. The advantage of decompression is shrinking the cyst to a more manageable size and subsequent ease of surgical removal [**6].** A large bore venous access should be obtained for anticipating severe blood loss intraoperatively [6].

Intestinal ileus and gaseous distension can occur in these cases, which may be fatal [8]. Nasogastric aspiration, maintaining electrolyte balance and use of an elastic abdominal binder can reduce these complications [6, 8]. Prophylactic measures such as elastic stockings, rapid mobilization, subcutaneous heparin and dextran infusion if needed are advised, to reduce complications like deep venous thrombosis and pulmonary embolism in these patients [6].

3. Conclusion

Huge ovarian tumours are very rare in the modern day clinical practice. Anesthesiologists must be aware about the anaesthetic challenges that are seen in these cases and must weight risk benefit ratio in selecting a particular anesthetic technique in each case. A huge ovarian tumour which weighed around 11 kg was successfully removed by meticulous planning, interdepartmental cooperation and proper management during the perioperative period.

Declaration of consent

Author certifies that all appropriate consents were taken. The patients understand that the name and identity will not be published and all efforts to conceal the identity will be taken but anonymity cannot be guaranteed.

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Conflict of interest
There are no conflicts of interest.

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