

Catastrophic Multiple Iatrogenic Laproscopic Aortic Injury: Case Report

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INTRODUCTION

Major vascular injury during laparoscopic surgery is the most important complication to be encountered by the laparoscopist. It is one of the most serious complications causing an immediate threat to a patient life.

Most of Vascular injuries occur on the insertion of the Veress needle before the commencement of surgery [1]. Major vascular injury during the laparoscopic surgery is relatively a rare complication. Its incidence has been reported between 0.2% and 0.5% in different studies [2][3]. Hypovolemic shock and retroperitoneal hematoma are the most common findings of major vascular injuries during laparoscopic surgery. The diagnosis of vascular injury may be delayed due to the absence of the intra-abdominal bleeding or the overlooked retroperitoneal hematoma [4].



Case presentation

A 25-year-old Omani female patient underwent laparoscopic Pyeloplasty at a private hospital. Following the placement of two trocars in the left upper quadrant of the abdomen, hemodynamic deterioration was observed. A median laparotomy was performed and major vascular injury was suspected. The private clinic requested urgent assistance as no vascular surgeon was employed. Our vascular team arrived in about 25 minutes.

The scene was quite horrible. The blood-soaked gauzes were heaped up, the surgeons and the anesthetists were exhausted and panic.

We took over the task and the consultant anesthetist in our hospital was called to join. Surgery was done under emergency conditions. Patient was in hemorrhagic shock. There were three anterior infra-renal aortic punctures in addition to a 4cm longitudinal inferior vena caval tear. No posterior wall aortic injury was recognized during the state of the shock. The patient bleeding was attempted to be stopped by the manual compression. The aortic puncture sites were repaired with Prolene 3/0 and the IVC tear with Prolene 5/0.

During this time, a central venous catheter was inserted and massive blood together with fresh frozen plasma was transfused. At the end of surgery, the patient was escorted with endotracheal tube in place and admitted in our centre under ICU observation.

On the following day, the hemoglobin level dropped significantly despite the initial perfect resuscitation. Emergency CTA revealed posterior aortic leak from millimetric injuries. Subsequently endovascular stent graft deployed and the patient discharged in optimal condition after nine days.

Three days later, the patient was admitted with severe chest pain, shortness of breath and dropped Oxygen saturation. CTPA showed massive pulmonary embolism. Catheter-directed thrombolytic therapy initiated without hesitation and successfully the patient was discharged a week later on Rivaroxaban tabs.

CONCLUSIONS

Although laparoscopic surgery is a treatment method that's becoming increasingly popular, its rare complications can be fatal.

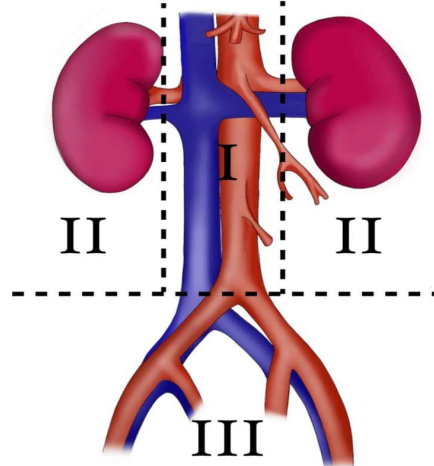
Early recognition, aggressive resuscitation and appropriate vascular management are vital for better outcomes. Laparoscopist must be aware of this rare, serious and potentially catastrophic complications. Once recognized, immediate conversation to an open procedure and application of the standard vascular techniques are required to carry out arterial and venous revascularization and hence minimize both morbidity and mortality. In such complications, it should not be forgotten that even few minutes are of vital importance and that posterior aortic injuries can be easily missed while operating on shocked patient post-operative close observation is mandatory.

The adequacy of the relevant competent anaesthesiologist, physician, surgical equipment and intensive care unit facility where laparoscopic surgeries are performed should be quite ready for such interventions.

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Zones of Intraabdominal Vascular Injuries



Discussion

The most important advantages of laparoscopic surgery are the ability to perform very small incisions, early discharge and cosmetic scars.

Veress needle classic entry, open entry and optical veress have been replaced by the protected disposable trocar entry device in the current laparoscopic entry methods [5][6].

In terms of Vascular injury risk, direct trocar entry was found to be faster and safer than the classic Veress one.

In study conducted in Sweden by Sundbom et al [7]. In another study by Simforoosh et Al [8]examining 5,347 patients who underwent laparoscopic surgery, only three patients were found to have major vascular injuries. (two abdominal aorta and one external iliac vein), all of which were repaired laparoscopically.