



# Urologic surgery laparoscopic access: vascular complications

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## ABSTRACT

Vascular injury in accidental punctures may occur in large abdominal vessels, it is known that 76% of injuries occur during the development of pneumoperitoneum. The aim of this video is to demonstrate two cases of vascular injury occurring during access in laparoscopic urologic surgery.

The first case presents a 60-year old female patient with a 3cm tumor in the superior pole of the right kidney who underwent a laparoscopic partial nephrectomy. After the Verres needle insertion, output of blood was verified. During the evaluation of the cavity, a significant hematoma in the inferior vena cava was noticed. After the dissection, a lesion in the inferior vena cava was identified and controlled with a prolene suture, the estimated blood loss was 300ml.

The second case presents a 42-year old female live donor patient who had her right kidney selected to laparoscopic live donor nephrectomy. After the insertion of the first trocar, during the introduction of the 10mm scope, an active bleeding from the mesentery was noticed. The right colon was dissected and an inferior vena cava perforation was identified; a prolene suture was used to control the bleeding, the estimated blood loss was 200mL, in both cases the patients had no previous abdominal surgery.

Urologists must be aware of this uncommon, serious, and potentially lethal complication. Once recognized and in the hands of experienced surgeons, some lesions may be repaired laparoscopically. Whenever in doubt, the best alternative is the immediate conversion to open surgery to minimize morbidity and mortality.

## ARTICLE INFO

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**EDITORIAL COMMENT: UROLOGIC SURGERY LAPAROSCOPIC ACCESS: VASCULAR COMPLICATIONS**

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Branco et al. (1) describe two cases of injuries during laparoscopic renal surgery; both recognized immediately and repaired laparoscopically. Laparoscopic entry complications are an uncommon but potentially life-threatening complication of laparoscopic surgery. Most such injuries occur during initial trocar insertion and most commonly involve major vessels and/or bowel. Failing to recognize these immediately is a leading cause of death in patients (2). A review by the U.S. Food and Drug Administration (FDA) committee found that there was insufficient evidence to recommend any particular access technique over the others (veress needle, direct trocar and hasson) largely due to poor centralized reporting of these complications (3). Whilst laparoscopic renal surgery is safe even in patients with previous abdominal surgery (4), surgeons must be experienced with access techniques, select patient appropriately for laparoscopic procedures, be familiar with trocar designs, use safe trocar insertion techniques and be vigilant for injuries during access. Whilst some of these injuries may be amenable to laparoscopic repair, one should have a low threshold for conversion to open and seeking appropriate help (general or vascular surgeon) when necessary to manage these promptly and safely.

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In the video by Branco et al. (1) two vascular injuries are shown. The video is very illustrative on how injuries are recognized and more important the way they are repaired. A quick intraoperative diagnosis of the injury and an appropriate management was performed by the surgeons.

Although uncommon, an important percentage of injuries in laparoscopic procedures occur during the abdominal access using needles or trocars. In a recent Cochrane Systematic Review, no difference was found between direct trocar over Veress needle entry in terms of injuries (2). Complications can be minimized, but they can never be avoided. We have to know how to solve them when present. And as the authors mention in the abstract, you should never hesitate on converting to open surgery when necessary.

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