

Staging Laparoscopy for Intra-Abdominal Carcinoma

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Introduction

Diagnostic laparoscopy is used for the diagnosis of intra-abdominal pathologies due to its capability to directly visualize intra-abdominal organs with the opportunity for gathering tissue biopsy, fluid aspiration, and tissue cultures [1] Its application for the staging of intra-abdominal cancers is known as staging laparoscopy.

Instruments

- 12 mm trocar
- 5 mm trocar × 2
- 30° laparoscope Atraumatic bowel graspers × 2
- Maryland forceps.
- Laparoscopic shears.
- Suction-Irrigation cannula.
- Punch biopsy forceps.
- Laparoscopic aspiration cannula.

General Indications [2]

1. Identification of occult metastatic disease or unsuspected locally advanced disease in patients with resectable disease based on preoperative imaging.
2. Assessment prior to administration of neoadjuvant chemoradiation.
3. Selection of palliative treatments in patients with locally advanced disease without evidence of metastatic disease on preoperative imaging.

General Contraindications

1. Verified metastatic disease.
2. Inability to tolerate pneumoperitoneum or general anesthesia.
3. Multiple adhesions/prior operations.
4. Intra-abdominal carcinoma complicated by obstruction, hemorrhage, or perforation in need of palliative surgery.

Surgical Technique

Under general anesthesia, a 10 mm umbilical incision is made for insertion of the Hasson's trocar with stay sutures to secure that trocar. A pneumoperitoneum at 12 mm Hg on medium flow (10–15 L/min) is created. The 30° telescope is then inserted through the 12 mm trocar and an

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initial exploration of the abdominal cavity is performed to evaluate for peritoneal as well as liver metastases. Port placement of the working trocars will now depend on the location of the pathology. The general rule is to apply the technique of triangulating the working ports in relation to the camera and the suspected pathology. A minimum of two trocars is advised, but additional trocars are deemed appropriate if needed. The size of the working trocars is variable depending on the instruments that you will use. Two 5 mm trocars would be sufficient to fit most instruments, being liberal to changing to a 10 mm working trocar as the need arises.

If no intra-abdominal metastasis is noted, definitive treatment can commence as planned.

In peritoneal carcinomatosis, biopsies can be performed by using Maryland forceps to pull down on the peritoneum where an area of metastasis is located and using the laparoscopic shears to cut that peritoneum together with the pathology. Minimal bleeding is usually encountered here which will eventually stop. For continuous

bleeding, monopolar or bipolar hemostasis can be used. Aspiration of ascitic fluid can be achieved by letting the fluid gravitate using proper patient positioning and retraction of the bowels away from the field. An aspiration cannula with a 10 mm syringe attached at its end is inserted for getting a sample of fluid for cell cytology.

Depending on the type of carcinoma, different maneuvers can be done to visualize the pathology. These will be discussed in the succeeding chapters in more detail.

References

1. Ramshaw BJ, Esartia P, Mason EM, et al. Laparoscopy for diagnosis and staging of malignancy. *Semin Surg Oncol.* 1999;16:279–83.
2. SAGES guidelines for diagnostic laparoscopy. <https://www.sages.org/publications/guidelines/guidelines-for-diagnostic-laparoscopy/>

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