

PLASTIC-study: protocol staging laparoscopy

Staging laparoscopy will be performed after FDG-PET/CT, prior to the initiation of treatment, and should be executed or supervised by a gastrointestinal or oncological surgeon. In a side-study, the influence of the type of hospital and execution by the surgeon or a resident on the quality of the laparoscopy will be investigated.

Surgery

During staging laparoscopy, there are 2 goals:

1. To evaluate the resectability of the primary tumor (T-stage)
2. To evaluate the presence or absence of peritoneal metastases

To evaluate the resectability of the tumor, a thorough inspection of the stomach and tumor along with surrounding organs should be performed. To evaluate the presence or absence of peritoneal metastases, all 4 quadrants of the peritoneal cavity and Douglas' pouch should be thoroughly inspected. In case of a tumor localized at the posterior wall of the stomach, it is advised to open the omental bursa and inspect it accordingly. In case of suspicious macroscopic lesions, biopsies will be taken and sent for pathological review. Macroscopic lesions will be scored according to the peritoneal cancer index (PCI, figure 2).

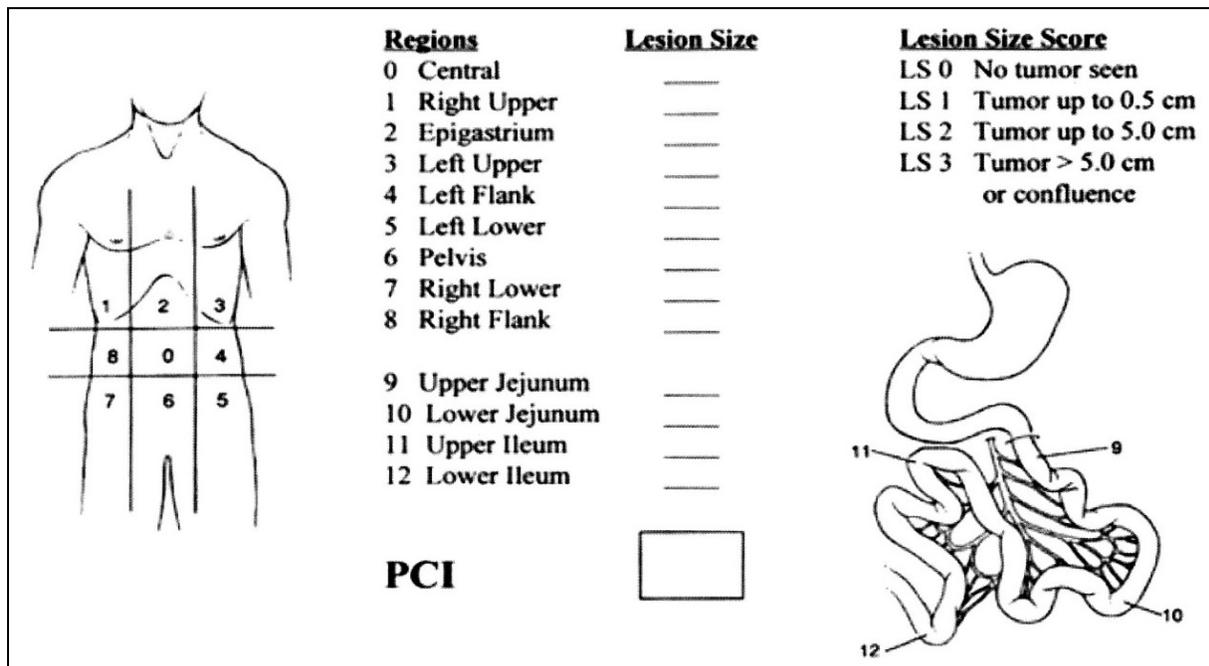


Figure 2. Peritoneal Cancer Index (PCI)

Cytology of the peritoneal cavity should be performed, as this reflects microscopic M1-disease. At least 500ml of saline should be introduced and equally dispersed throughout the peritoneal cavity in all quadrants, Douglas' pouch and the omental bursa if opened.¹. After collection, the samples will be sent for pathological review.

Pathology

Pathological review of potential peritoneal metastases and/or cytology will be analyzed by a dedicated gastrointestinal pathologist. Histological peritoneal samples should be sectioned and stained with haematoxylin & eosin (H&E). Peritoneal cytology should be evaluated with conventional smear cytology and with cell blocks of the remaining peritoneal lavage. If necessary, additional immunohistochemical stainings will be performed (e.g. EpCam and/or calretinin)².

References

1. Lorenzen S, Panzram B, Rosenberg R, et al. Prognostic significance of free peritoneal tumor cells in the peritoneal cavity before and after neoadjuvant chemotherapy in patients with gastric carcinoma undergoing potentially curative resection. *Ann Surg Oncol* 2010;17:2733-2739.
2. Haverkamp L, Brenkman HJ, Ruurda JP, et al. The Oncological Value of Omentectomy in Gastrectomy for Cancer. *J Gastrointest Surg* 2016.
3. Leake PA, Cardoso R, Seevaratnam R, et al. A systematic review of the accuracy and utility of peritoneal cytology in patients with gastric cancer. *Gastric Cancer* 2012;15 Suppl 1:S27-37.