"Laparoscopic versus Open Gastrectomy for Gastric Cancer – A multicenter prospectively randomized controlled trial"

Hoofdonderzoeker: Prof. dr. R. van Hillegersberg
Studiecoördinators: Hylke Brenkman h.j.f.brenkman@umcutrecht.nl / 0645054648
Maarten Seesing m.f.j.seesing@umcutrecht.nl / 0631042088

Total gastrectomy

The patient is positioned in supine position under general anaesthesia. The conventional open total gastrectomy is performed by means of an upper midline laparotomy. In case of the laparoscopic procedure, 5 ports are used: a camera port (10mm), two working ports (5mm), an assisting port (5mm) and a port (12mm) for the liver retractor. Placement of all ports is done according to the surgeons preference. The minor and greater curvatures of the stomach are dissected. The left gastric artery and vein are transected at their origin. Next, the right gastroepiploic artery and the right gastric artery are transected at their origin. The postpyloric duodenum is cleaved by means of a linear endostapler. Subsequently, the distal esophagus is dissected from the left and right crus and mobilized. At the distal esophagus 2 support sutures are placed to pull the esophagus into the abdominal cavity, after which the distal oesophagus is cleaved. Frozen section histology of the tumor resection planes is performed to assess the radicality of the resection. Optional frozen section histology can be performed for detection of local tumor invasion and metastases. The greater omentum is resected for future side-studies. Subsequently, a transverse incision is performed to take out the stomach and greater omentum. A hand-sewn jejuno-jejunostomy is created. Next, the actual esophagojejunostomy is performed. The formation of a jejunal pouch and the placement of a feeding jejunostomy should be performed according to the local hospital's policy.

Distal gastrectomy

The conventional open distal gastrectomy is performed by means of a midline laparotomy. For laparoscopy, first a pneumoperitoneum is obtained by introducing the first trocar under direct visual control. This trocar is placed in the umbilicus. The next four trocars can be placed according to the surgeon's preference. The minor omentum is opened. Next, the greater curvature of the stomach is prepared. The gastrocolic ligament is divided at 3 cm distal to the gastroepiploic artery, after which the greater curvature is skeletonized up to the gastrosplenic ligament. The right gastroepiploic vein and artery are clipped at its origin. Next the right gastric vessels are clipped. The duodenum is divided distally at 1 cm distal to the pyloric sphincter. The proximal side of the stomach is divided at least 6cm above the tumor. Partial omentectomy is performed in the area of the antrum. The removal of the resected specimen occurs via a mini-laparotomy (max. 5-6 cm), which can be located according to the surgeon's

insight. The minilaparotomy must be muscle sparing as describes above. Finally, a Roux-en-Y gastrojejunostomy is performed.

Lymphadenectomy

Lymph node dissection will be performed based on the *Dutch oncologic guidelines* and *Japanese gastric cancer treatment guidelines*. For D2 lymphadenectomy no pancreato-splenectomy is performed since this is associated with high post-operative morbidity and mortality. Furthermore, lymph node station 10 is not dissected during total gastrectomy since it is technically difficult and associated with poor prognosis when affected. Lymph node stations 1, 3, 4d, 4sb, 5-9, 11p and 12a are dissected during distal gastrectomy. Lymph node stations 1-3, 4d, 4sa, 4sb, 5-9, 11p, 11d and 12a are dissected during total gastrectomy. All lymph node stations will be marked by the surgical team and presented to the pathologist for evaluation.