

# Esophageal Cancer Treatment

## Lymphadenectomy

Retrospective data from Japan in the 1980's suggested superior survival after extended lymphadenectomy for gastric cancer.

Extent of lymphadenectomy can be categorized:

D1: Perigastric D2: Central nodes + splenic hilum D2 $\alpha$ : Central nodes D3: Extended nodes

## D1 Perigastric nodes

Lymph node stations immediately adjacent to the stomach

- 1:
- 2:
- 3: Lesser curvature
- 4: Greater curvature
- 5: Suprapyloric
- 6: Infrapyloric

## D1 Perigastric Nodes



## D2 Central Nodes + splenic hilum

Lymph nodes adjacent to celiac axis:

- 12a: Left side of porta hepatis
- 8: Common hepatic artery
- 7: Left gastric artery
- 9: Celiac axis
- 11: Proximal splenic artery
- 10: Splenic hilum

## D1 $\alpha$ Central Nodes

Lymph nodes adjacent to celiac axis:

- 12a: Left side of porta hepatis
- 8: Common hepatic artery
- 7: Left gastric artery
- 9: Celiac axis
- 11: Proximal splenic artery
- ~~10: Splenic hilum~~

## D2 Central Nodes

### N2 Lymph nodes (branches coeliac axis)

- 7 Nodes along root left gastric artery
- 8 Nodes along common hepatic artery
- 9 Nodes around coeliac axis
- 10 Nodes at splenic hilum
- 11 Nodes along splenic artery



## Durch Trial: D2 vs D1 Lymphadenectomy



Dutch Trial: Overall Survival



Number at risk

|    |     |     |     |     |     |     |    |
|----|-----|-----|-----|-----|-----|-----|----|
| D1 | 380 | 231 | 174 | 149 | 132 | 108 | 47 |
| D2 | 331 | 191 | 158 | 138 | 125 | 110 | 70 |

## Dutch Trial: D2 vs D1 Lymphadenectomy



Number at risk

|    |     |     |     |     |     |     |    |
|----|-----|-----|-----|-----|-----|-----|----|
| D1 | 380 | 231 | 174 | 149 | 132 | 108 | 47 |
| D2 | 331 | 191 | 158 | 138 | 125 | 110 | 70 |

Durch Trial: Cause of Death



Durch Trial: Disease-free Survival



## Dutch Trial: D2 vs D1 Lymphadenectomy



## Dutch Trial: D2 vs D1

Operative mortality higher with D2 (10% vs 4%)

More complications with D2 (43% vs 25%)

More reoperations with D2 (18% vs 8%)

## Dutch Trial: Total vs Subtotal gastrectomy

Protocol did not dictate extent of gastric resection, but did require a proximal margin of 5cm if a subtotal gastrectomy performed.

No difference in survival between total vs subtotal gastrectomy

## **Dutch Trial: Conclusions**

D2 lymphadenectomy is associated with better local control of gastric cancer than D1 node dissection, but at an increased risk of mortality and complications.

Can the toxicity of extended lymphadenectomy be reduced?

- Elimination of splenectomy (D1α)
- Minimally-invasive techniques

## **MAGIC Trial - Perioperative Chemotherapy**

503 gastric cancer stage II adenocarcinoma of stomach, GE junction or lower esophagus

ECF Chemo → Surgery → ECF Chemot vs Surgery alone

Chemotherapy: Epirubicin, cisplatin, 5FU

Surgery 3-6 weeks after last dose of chemo Chemo 6-12 weeks after surgery

## **MAGIC - Perioperative Chemotherapy**

Tumor Location

- Gastric 74%
- GE junction 11%
- Distal esophagus 15%

## **MAGIC- Perioperative Chemotherapy**

Curative radical resection 79% with chemo vs. 70% (p=0.03)

Longer 5-year survival with chemo (36% vs 23%). p=0.0009

Complete chemotherapy regimen (6 doses) in only 42%

Of patients who completed preop chemotherapy and surgery, only 34% received postoperative chemotherapy.

## **FLOT - Perioperative Chemotherapy**

7616 patients with adenocarcinoma of GE junction or stomach randomized:

ECF → Surgery → ECF vs FLOT → Surgery →

Longer survival with FLOT (median 50 months vs 35 months)

## **TOPGEAR**

ECF → Surgery → ECF → ChemoRT vs ECF → Surgery → ECF

## **HIPEC - Ongoing Trials**

GASTRICHIP:

Patients with peritoneal disease from gastro cancer.

Chemo → Surgery with cytoreduction → Chemo vs Chemo → Surgery with cytoreduction + HIPEC → Chemo

(glehen1?)

## **GASTRICHIP**

105 patients randomized 2014 - 2018. Trial closed due to slow accrual

55 patient treatment stopped prior to cytoreductive surgery due to disease progression

HIPEC with mitomycin and cisplatin for 60min at 42°C.

Median survival 15 months in both groups (without a difference).

(glehen1?)



## **PERISCOPE-II**

Comparison of cytoreductive surgery + HIPIC to systemic chemotherapy in patients with gastric cancer and peritoneal metastasis.

(koemans1?)

## **CHIMERA Trial**

FLOT + HIPIC vs FLOT + Surgery in advanced gastric cancer  
78

## **PREVENT**

Diffuse-type gastric and GE junction adenocarcinoma:

FLOT → Gastrectomy + HIPIC → vs FLOT → Gastrectomy  
→

(gotze1?)