Esophageal Cancer Treatment

Lymphadenectomy

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

Extent of lympadenectomy can be categorized:

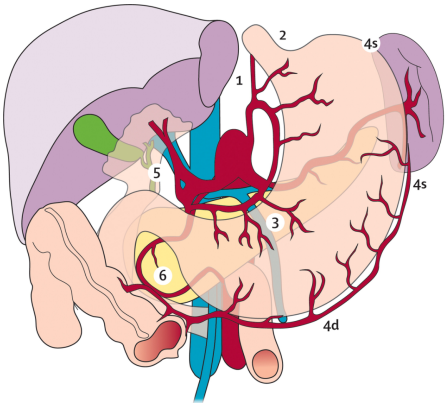
D1: Perigastric D2: Central nodes + splenic hilum D2α: Central nodes D3: Extended nodes

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



N1 Lymph nodes (perigastric)

1 Right cardiac nodes
2 Left cardiac nodes
3 Nodes along the lesser curvature
4d Lymph nodes along the short gastric and the left gastroepiploic vessels
4s Lymph nodes along the right gastroepiploic vessels
5 Suprapyloric nodes
6 Infrapyloric 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

D1α Central Nodes

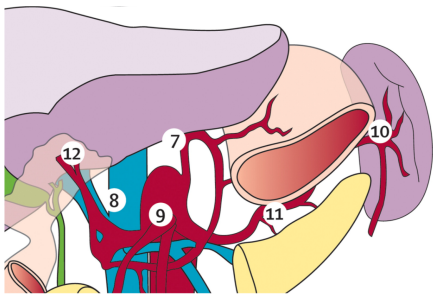
Lymph nodes adjacent to celiac axis:

- 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

MRC Trial: D2 vs D1 Lymphadenectomy

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

More complicatoins wtih D2 (43% vs 25%)

More reoperations with D2 (18% vs 8%)

737 patients with gastric cancer registered

Staging laparotomy found 337 patients ineligible

- Liver or peritoneal metastasis
- Para-aortic node involvement on frozen

400 patients randomized to D1 vs D2 lymphadenectomy

Distal gastrectomy allowed if proximal margin of 5cm

Total gastrectomy in all others

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Esophageal Cancer Treatment Categories

Category	Stage	Treatment
Dyplasia	Tis	Radiofrequency Ablation
Superficial Tumors	T1a	Endoscopic Therapy
Localized Tumors	T1b T2	Surgery
[Locally-advanced]	T3 or N^+	ChemoRT $\rightarrow$ Surgery
[Metastatic]	M1	Chemotherapy +/- Radiation

Dyplasia

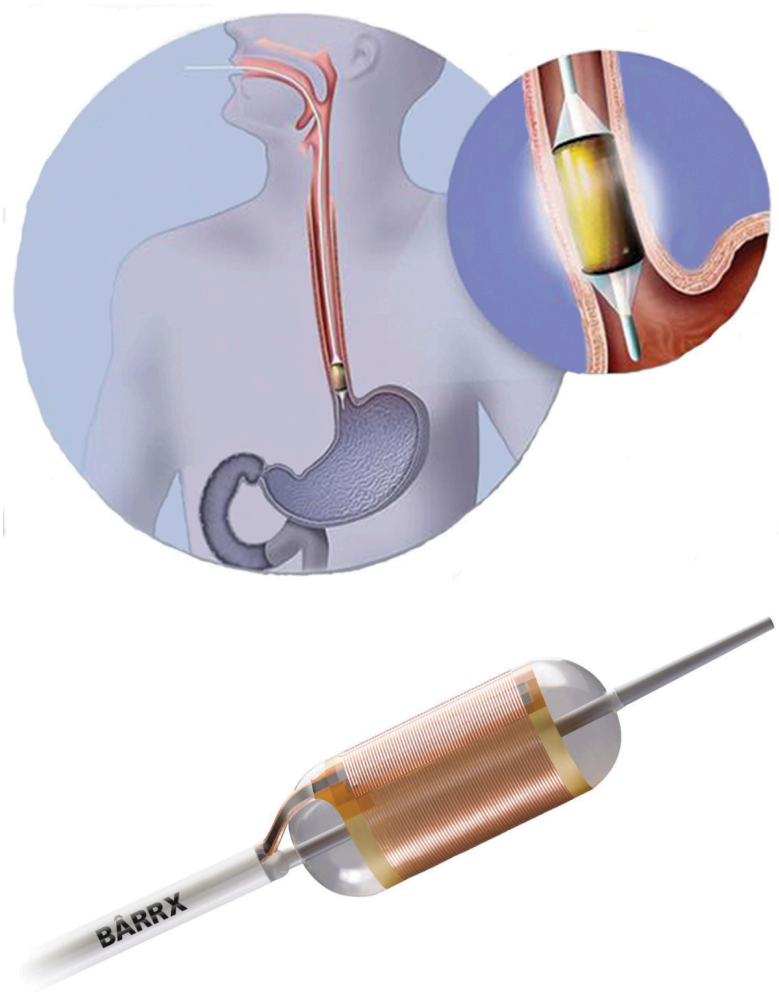
Radiofrequency Ablation for Dysplasia

127 patients with dysplasia randomized:

- Radio-frequency ablation
- Sham ablation

Low-grade dysplasia in 64

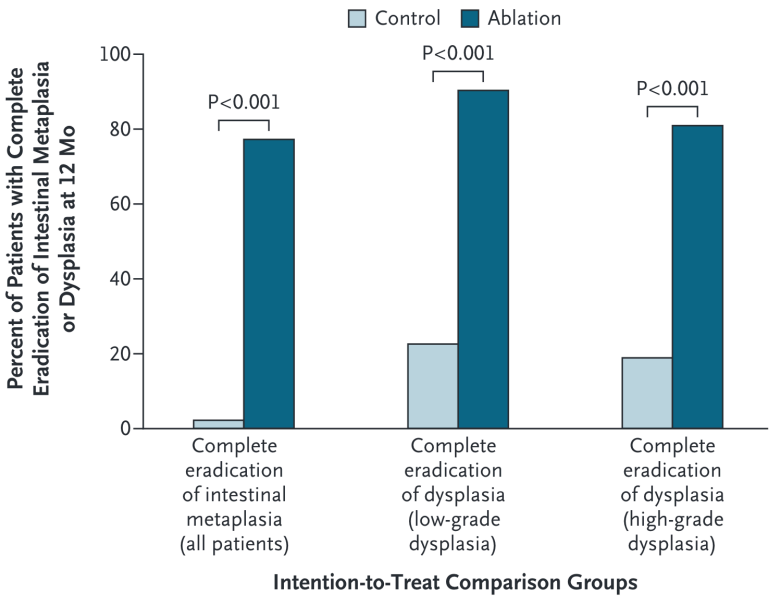
High-grade dysplasia in 63



(Shaheen et al. 2009)

Radiofrequency Ablation for Dysplasia

Radiofrequency Ablation results in eradication of Barrett's in 75% at 1 year



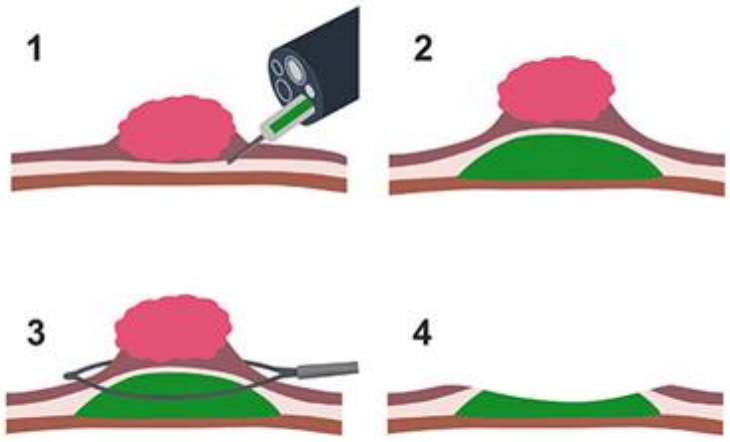
(Shaheen et al. 2009)

Superficial Tumors

Workup of nodular Barretts:

- Endoscopic Ultrasound
- Endoscopic Mucosal Resection
  - Diagnostic (T staging)
  - May be therapeutic for T1a tumors

Endoscopic Musocal Resection



Localized Tumors

Patients staged as uT2 N0 are candidates for primary surgery. *However:*

- EUS has a 25% rate of understaging uT2 N0 tumors
- Understaged patients who undergo primary surgery would need chemo or chemoRT postop

Small Tumors (minimal dysphagia)

- EUS to distinguish T2 from T3 tumors
- If uT2 N0 $\rightarrow$ CT chest/abdomen/pelvis $\rightarrow$ Esophagectomy
- If uT3 or N1 $\rightarrow$ PET $\rightarrow$ neoadjuvant therapy

Patients with dysphagia almost always are T3 tumors (and don't need EUS)

Symptomatic Tumors (Dysphagia)

Patients with dysphagia to solids or weight loss or tumor length >3cm are unlikely to have T1-2 tumors and can be initially evaluated with [PET Scan]

- Disease confined to the esophagus and regional nodes → [Locally-advanced]
- Metastatic disease → [Metastatic]
- N3 → induction chemotherapy followed by chemoradiation and surgical evaluation.

Shaheen, Nicholas J., Prateek Sharma, Bergein F. Overholt, Herbert C. Wolfsen, Richard E. Sampliner, Kenneth K. Wang, Joseph A. Galanko, et al. 2009. "Radiofrequency Ablation in Barrett's Esophagus with Dysplasia." *The New England Journal of Medicine* 360 (22): 2277–88. https://doi.org/10.1056/NEJMoa0808145.