

**Self-Assessment Module**  
**2017 ASTRO Annual Meeting**

**Esophagus and Gastric Cancer: Contemporary Treatment Approaches**

Michael G. Haddock M.D. and Jennifer Wo M.D.

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**Question 1:**

What characteristic of esophageal cancer is most associated with lymph node metastases?

- a) Adenocarcinoma histology
- b) Location in middle third of esophagus
- c) Invasion into submucosa or greater depth
- d) High histologic grade

**Answer:**

c

**Feedback:**

Risk of lymph node metastasis is not related to histology, tumor location, or differentiation. There is a very low risk of lymph node metastasis (<3%) for cancers limited to the mucosa. Once the submucosa is breached, the risk of metastasis to lymph nodes rises significantly making endoscopic resection alone inadequate therapy.

**Location:**

Slides 12-14

**Reference:**

Gockel I, Sgourakis G, Lyros O, et al. Risk of lymph node metastasis in submucosal esophageal cancer: a review of surgically resected patients. *Expert Review of Gastroenterology and Hepatology* 2011; 5(3): 371-384.

*--- End of Question 1 ---*

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**Question 2:**

Following preoperative chemoradiation to 41.4 Gy with carboplatin and paclitaxel and surgery, what was the predominant failure pattern on the CROSS randomized trial in esophageal cancer?

- a) In-field
- b) Marginal
- c) Regional
- d) Distant

**Answer:**

d

**Feedback:**

In a patterns of relapse analysis of the CROSS trial, in-field relapse was observed in 5%, marginal relapse in 2%, regional relapse in 6%, and distant relapse in 31%

**Location:**

Slides 32-33

**Reference:**

Oppedijk V, van der Gaast A, van Lanschot JJB, et al. Patterns of recurrence after surgery alone versus preoperative chemoradiotherapy and surgery in the CROSS trials. *J Clin Oncol* 2014; 32:385-391.

*--- End of Question 2 ---*

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**Question 3:**

What is the impact on increasing dose to the heart in patients with thoracic cancers?

- a) No impact in the dose range typically used for esophageal cancer
- b) Increased cardiac events only in those who survive more than 10 years
- c) Increased cardiac events seen within 2 years of treatment
- d) Decreased cardiac events due to protective effect of low doses of radiation

**Answer:**

c

**Feedback:**

Several studies in lung cancer patients have shown that heart dose is associated with cardiac events in the near term (within 2 years) as well as later effects. Although these studies have mostly been in patients with lung cancer, the cardiac effects almost certainly apply to esophageal cancer patients. There is no data to suggest low doses to the heart are beneficial!

**Location:**

Slides 69-74

**Reference:**

Wang K, Eblan MJ, Deal AM, et al. Cardiac toxicity after radiotherapy for stage III non-small-cell lung cancer: pooled analysis of dose escalation trials delivering 70-90 Gy. *J Clin Oncol* 2017; 35:1387-1394

*-- End of Question 3 --*

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**Question 4:**

According to the updated results of the ARTIST trial, which of the following types of gastric cancer are most likely to benefit from postoperative chemoradiotherapy?

- a) Diffuse type, node-positive
- b) Diffuse type, node-negative
- c) Intestinal type, node-positive
- d) Intestinal type, node-negative

**Answer:**

C

**Feedback:**

The ARTIST trial reported a significant improvement in disease-free-survival with adjuvant chemoradiation in the subsets of patients with node-positive disease, and with intestinal type tumors.

**Location:**

Slide 73

**Reference:** Park SH Sohn TS, Lee J, et al. Phase III Trial to Compare Adjuvant Chemotherapy with Capecitabine and Cisplatin Versus Concurrent Chemoradiotherapy in Gastric Cancer: Final Report of the Adjuvant Chemoradiotherapy in Stomach Tumors Trial, Including Survival and Subset Analysis. JCO. 33(28): 3130-3136.

*--- End of Question 4 ---*

**Question 5:**

What is a D2 resection for gastric cancer?

- a) No nodes removed
- b) Only perigastric nodes removed
- c) Perigastric and celiac artery branch nodes removed
- d) Perigastric, celiac artery branch nodes, and peri-aortic nodes removed

**Answer:**

C

**Feedback:**

D2 dissection is an extended lymphadenectomy, typically corresponding to perigastric nodes and nodes along the celiac artery and its branches. D1 dissection includes perigastric nodes only, and D3 dissection also includes the peri-aortic nodes.

**Location:**

24,25

**Reference:**

Songun I, Putter H, Kranenbarg EM, Sasako M, van de Velde CJ. Surgical treatment of gastric cancer: 15-year follow-up results of the randomised nationwide Dutch D1D2 trial. *Lancet Oncol.* 2010 May;11(5):439-49.

*--- End of Question 5 ---*