

## Upper Gastrointestinal Tumors: Review Questions

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### QUESTIONS

Choose the single best answer for each question.

- 1. A 32-year-old woman with major depression attempts suicide by drinking a household cleaning product containing lye. After being brought to an emergency department for medical attention, the patient is found to have severe chemical burns to her esophagus and stomach. The patient is stabilized, but develops severe stricturing of her proximal and midesophagus over the next several months. What condition is this patient at high risk for developing in the future?**
  - (A) Squamous cell carcinoma of the esophagus
  - (B) Adenocarcinoma of the esophagus
  - (C) Gastric lymphoma
  - (D) Gastric adenocarcinoma
  - (E) Duodenal adenocarcinoma
- 2. A 58-year-old man with a longstanding history of severe gastroesophageal reflux disease (GERD) develops progressive dysphagia and experiences a 20-lb weight loss over a 6-month period. Upper endoscopy reveals a large mass in the distal esophagus proximal to the gastroesophageal junction. Biopsies are obtained. The pathology report is most likely to reveal:**
  - (A) Squamous cell carcinoma of the esophagus
  - (B) Adenocarcinoma of the esophagus
  - (C) Gastrointestinal stromal tumor
  - (D) Reactive inflammation with tissue hypertrophy
  - (E) Metastatic melanoma
- 3. All of the following are thought to be risk factors for the development of gastric adenocarcinoma EXCEPT:**
  - (A) *Helicobacter pylori* infection
  - (B) High salt diet
  - (C) Diet high in smoked foods
  - (D) Cigarette smoking
  - (E) Alcohol consumption
- 4. A 75-year-old man with a history of coronary artery disease and parkinsonism is evaluated via upper endoscopy for a sensation of persistent abdominal fullness. He continues to eat well and has not had other symptoms. An upper endoscopy is performed and a 2 × 5 cm submucosal mass is identified in the gastric fundus. Deep biopsies reveal the mass to be a leiomyoma, a type of gastrointestinal stromal tumor. Subsequent endoscopic ultrasound studies fail to demonstrate abnormal local or regional lymph nodes and show the tumor to be confined to the gastric muscle layer. What is the best option for this patient?**
  - (A) Chemotherapy
  - (B) Radiation therapy
  - (C) Partial gastrectomy with curative intent
  - (D) Observation
  - (E) Palliative gastrojejunostomy
- 5. A 62-year-old woman known to have squamous cell carcinoma of the esophagus with liver metastases presents with dysphagia and coughing fits while eating. An upper endoscopy shows a narrowed esophageal lumen in the mid esophagus due to the tumor, and a barium swallow demonstrates the presence of a tracheoesophageal fistula at the level of the mass. What is the best treatment option for this patient?**
  - (A) Photodynamic therapy
  - (B) Endoscopic laser therapy
  - (C) Endoscopic alcohol injection
  - (D) Endoscopic stent placement
  - (E) Placement of a percutaneous endoscopic gastrostomy (PEG) tube

*(turn page for answers)*

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#### EXPLANATION OF ANSWERS

1. **(A) Squamous cell carcinoma of the esophagus.** Patients who have experienced lye ingestion are at risk for developing squamous cell carcinoma of the esophagus, which often occurs decades after the original caustic ingestion. Endoscopic surveillance in these patients is difficult because they often develop severe stricturing of the esophagus as a result of the primary ingestion. Lye ingestion is not a risk factor for the other malignancies listed.
2. **(B) Adenocarcinoma of the esophagus.** The patient's history and findings at endoscopy are highly suggestive of esophageal adenocarcinoma. GERD is strongly associated with esophageal adenocarcinoma. The frequency, severity, and duration of symptoms in GERD have been associated with an increased risk of developing esophageal adenocarcinoma. In addition, the patient's age, progressive dysphagia, and weight loss over short period of time are all suggestive of malignancy. Metastatic tumors to the esophagus are very rare. GERD has not been associated with the other findings listed.
3. **(E) Alcohol consumption.** Although historically thought to predispose to gastric adenocarcinoma, multiple recent trials have not found alcohol to be an independent risk factor for the development of this disease.<sup>1–3</sup> All of the other options have been associated with the development of gastric adenocarcinoma. *Helicobacter pylori* has been classified as a World Health Organization class I carcinogen due to its association with the development of gastric adenocarcinoma.
4. **(D) Observation.** As seen in this patient, most benign gastric leiomyomas occur in adult patients and are asymptomatic until the lesions achieve signifi-

cant size. Although surgery with curative intent is often performed in younger patients with leiomyomas, this patient's advanced age and medical comorbidities make observation the most attractive option. Chemotherapy and radiation therapy are not performed in these patients. There is no need to perform a gastrojejunostomy because the tumor is not causing gastric outlet obstruction.

5. **(D) Endoscopic stent placement.** Endoscopic placement of a covered metal stent would widen the esophageal lumen in the region of the tumor, improving the patient's dysphagia. In addition, the stent would cover the tracheoesophageal fistula, thus greatly reducing the risk of aspiration. Photodynamic therapy, endoscopic laser therapy, and alcohol injection all can be used as palliative therapies in patients with malignant dysphagia. None of these 3 modalities, however, can treat the patient's concomitant tracheoesophageal fistula. A PEG tube would allow the patient to receive nutrition and hydration, but the patient could still develop pneumonia if gastric contents reflux into the esophagus and cross the fistula.

#### REFERENCES

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3. Lagergren J, Bergstrom R, Lindgren A, Nyren O. The role of tobacco, snuff and alcohol use in aetiology of cancer of the oesophagus and gastric cardia. *Int J Cancer* 2000;85:340–6.

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