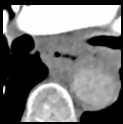


Esophageal Carcinoma

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RADIOLOGY
University of Wisconsin
School of Medicine and Public Health

CHESTRAD 2023

A Case Review and Lecture Series
Saturday 15th July - Sunday 16th July - Monday 17th July
27 CPD Points

1

Introduction

- Adenocarcinoma (AC) and squamous cell carcinoma (SCC)
- >95% of malignant esophageal neoplasms
- AC > SCC in the developed world
- SCC most common worldwide

2

Introduction

- Smoking and alcohol primary risk factors for SCC
- Barrett esophagus, GERD, obesity, and smoking primary risk factors for AC
- 50%-80% of patients present with incurable disease
- Early-stage disease usually detected incidentally on endoscopy

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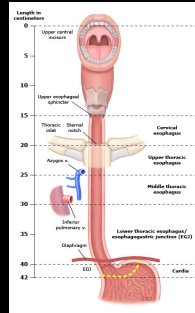
Objectives

- Review imaging features of esophageal carcinoma
- Highlight key features of TNM staging system
- Illustrate complications of esophageal carcinoma

4

Staging

- Endoscopic ultrasound (EUS)
- Contrast-enhanced CT
- FDG PET/CT



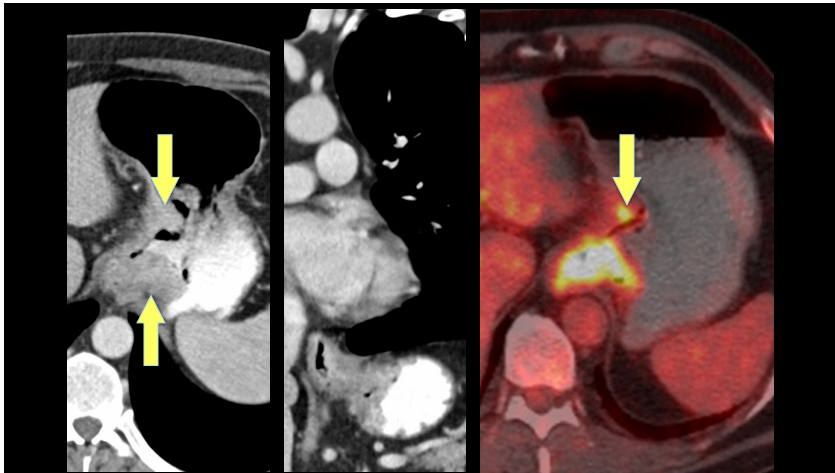
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Esophagogastric Junction Tumors

- Esophageal cancer staging
 - EGJ tumors with center ≤ 2 cm into the proximal stomach
- Gastric cancer staging
 - EGJ tumors with center located >2 cm into the proximal stomach
 - Gastric cardia cancers not involving the EGJ even if ≤ 2 cm of the EGJ

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TNM Staging (8th ed.)

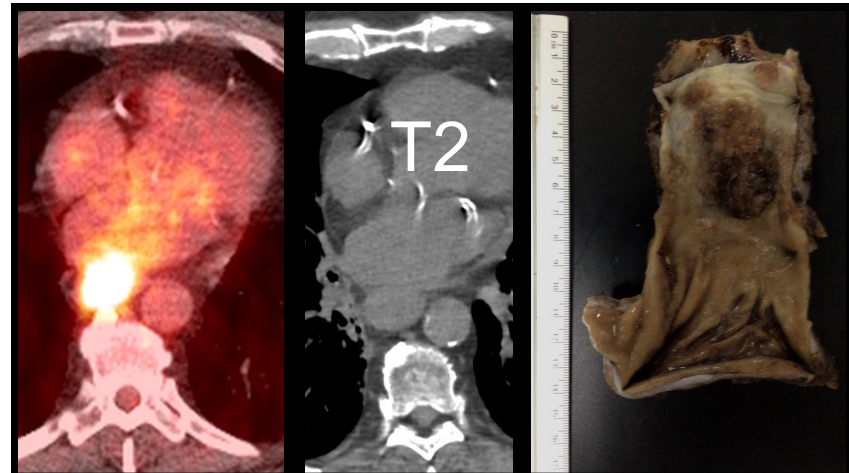
- T staging is primarily determined by EUS
- N staging is based on the *number* of involved regional lymph nodes
- M is binary
- Stage groups for adenocarcinoma and squamous cell carcinoma differ
- Location and tumor grade play roles

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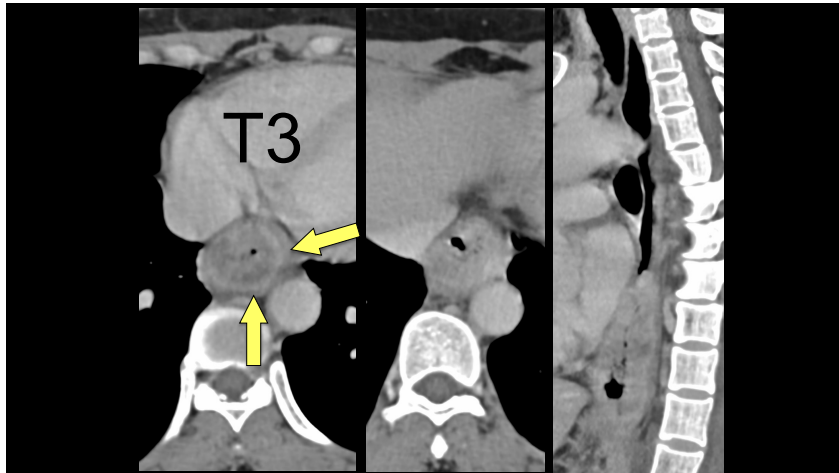
TNM Staging (8th ed.)

- T1
 - Invasion of lamina propria, muscularis mucosae, or submucosa
- T2
 - Invasion of muscularis propria
- T3
 - Invasion of adventitia

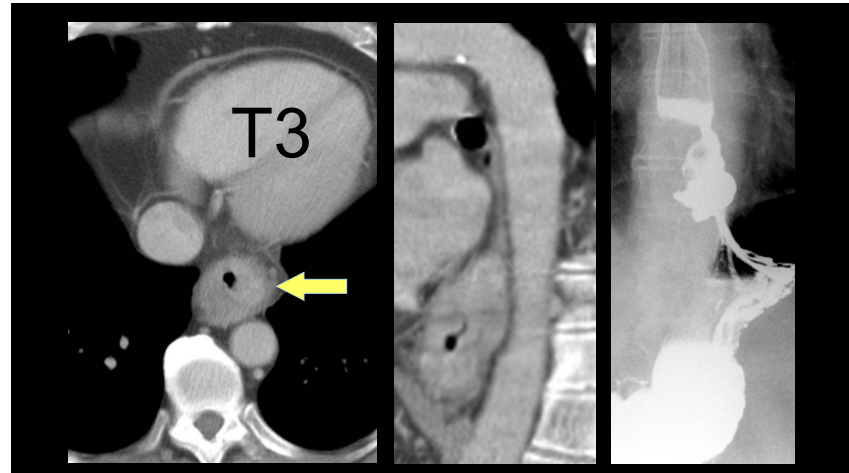
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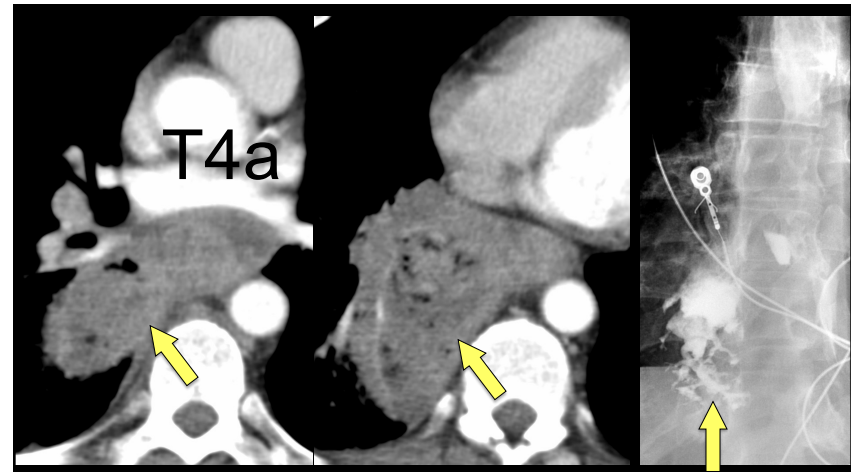


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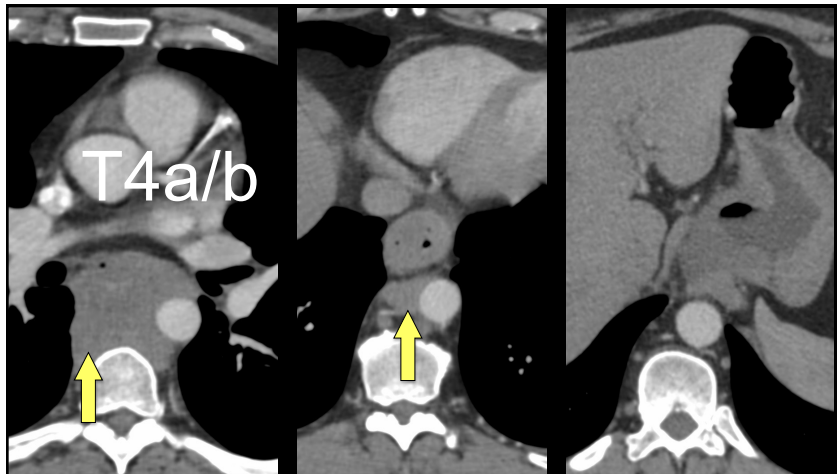
TNM Staging (8th ed.)

- T4a
 - Invades pleura, pericardium, azygos vein, diaphragm, peritoneum
- T4b
 - Invades other adjacent structures (aorta, spine, airway)

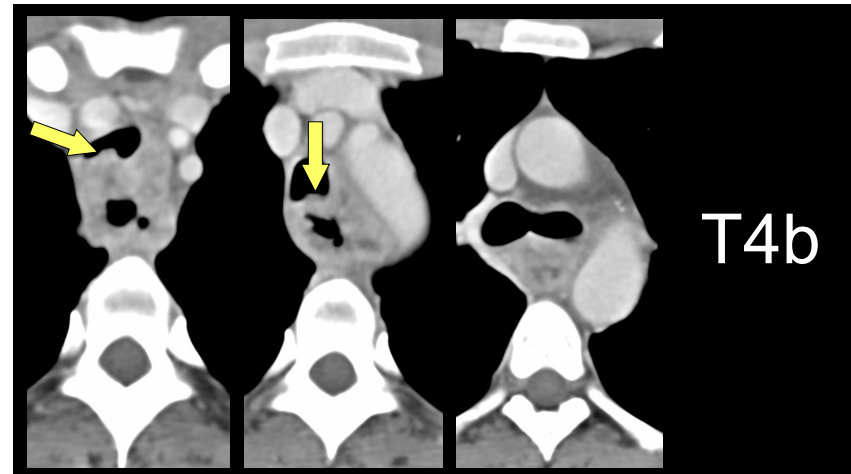
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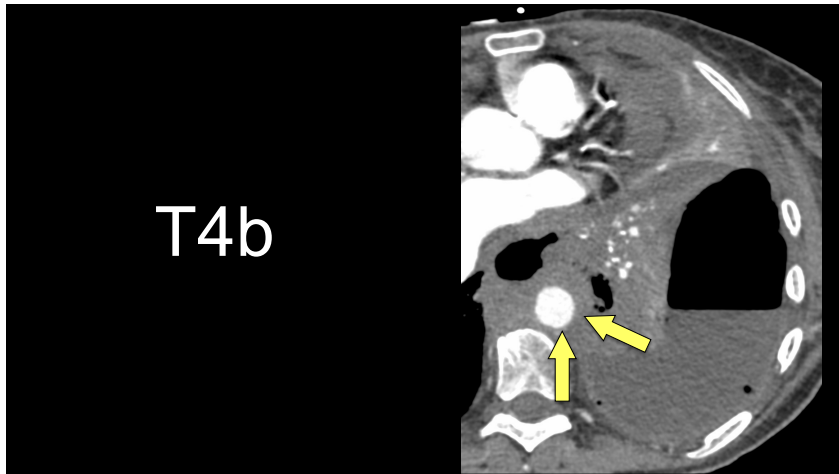
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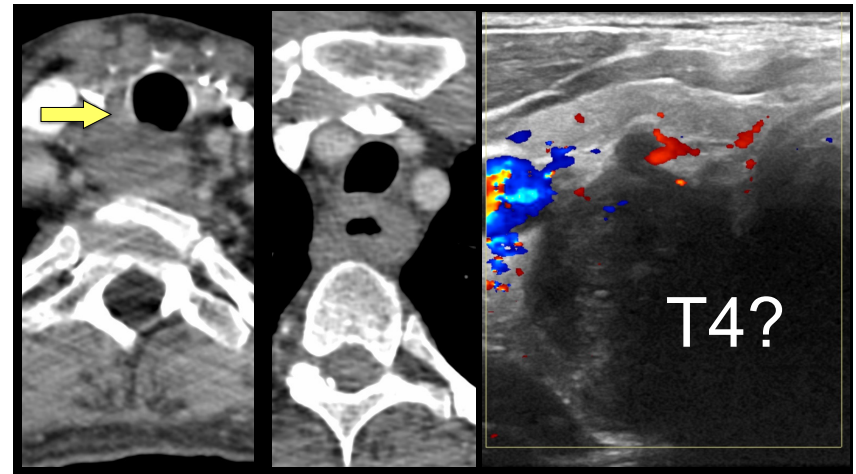
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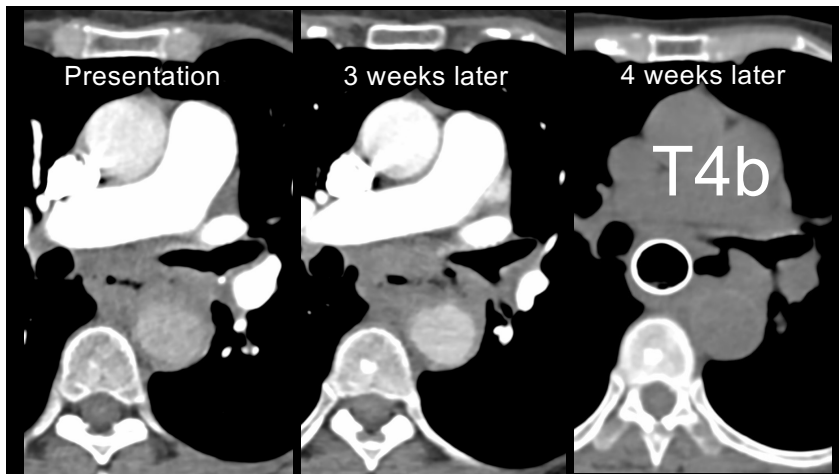
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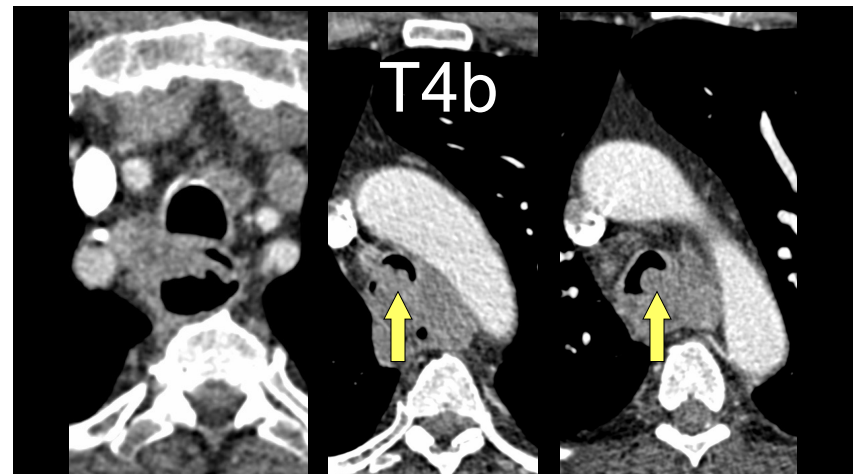
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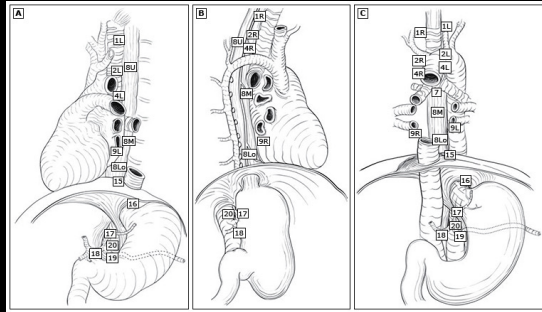
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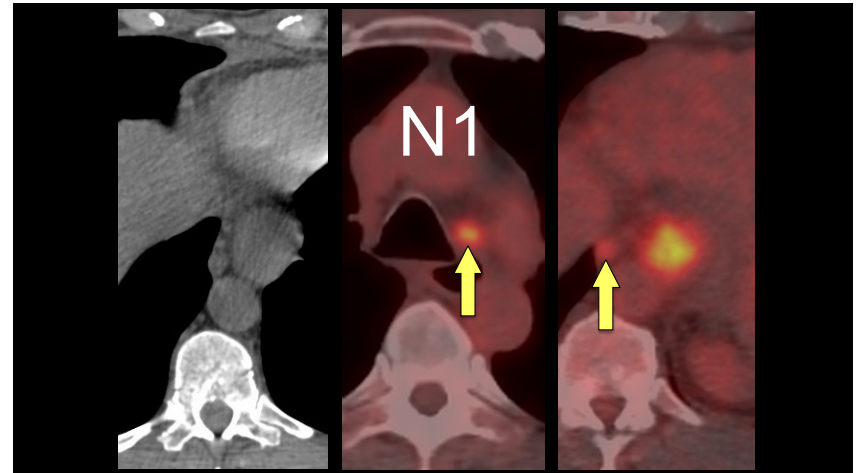
TNM Staging (8th ed.)

- N0
–0 nodes
- N1
–1-2 nodes
- N2
–3-6 nodes
- N3
–≥7 nodes

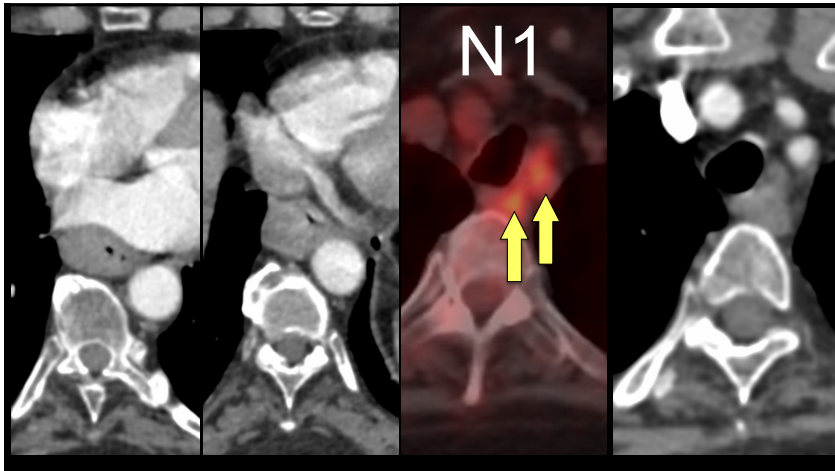


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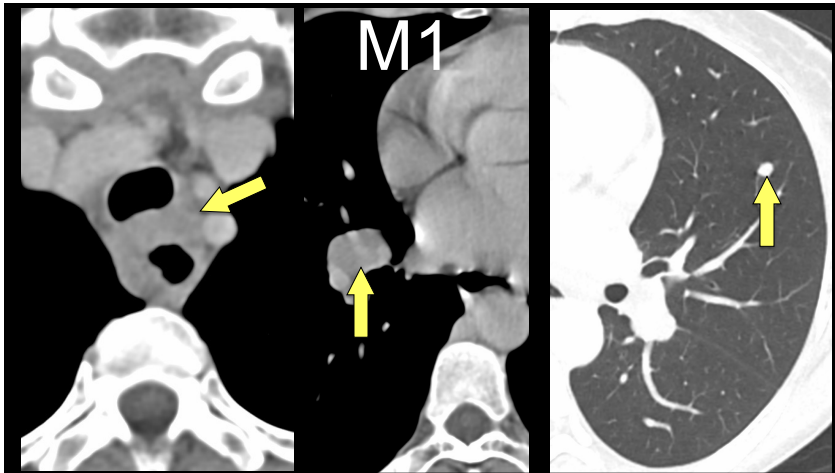


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TNM Staging (8th ed.)

- M0
–No distant metastases
- M1
–Any distant metastases

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TNM Staging (8th ed.) - SCC

- Stage I
 - T1 N0-1 M0
- Stage II
 - T2 N0-1 M0
 - T3 N0
- Stage III
 - T3 N1 M0
 - T1-3 N2 M0
- Stage IVA
 - T4 N0-2 M0
- Stage IVB
 - Any T, any N, M1

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TNM Staging (8th ed.) - AC

- | | | |
|---|--|---|
| <ul style="list-style-type: none"> • Stage I <ul style="list-style-type: none"> – T1 N0 M0 • Stage IIA <ul style="list-style-type: none"> – T1 N1 M0 • Stage IIB <ul style="list-style-type: none"> – T2 N0 M0 | <ul style="list-style-type: none"> • Stage III <ul style="list-style-type: none"> – T2 N1 M0 – T3 N0-1 M0 – T4a N0-1 M0 | <ul style="list-style-type: none"> • Stage IVA <ul style="list-style-type: none"> – T1-4a N2 M0 – T4b N0-2 M0 – Any T N3 M0 • Stage IVB <ul style="list-style-type: none"> – Any T, any N, M1 |
|---|--|---|

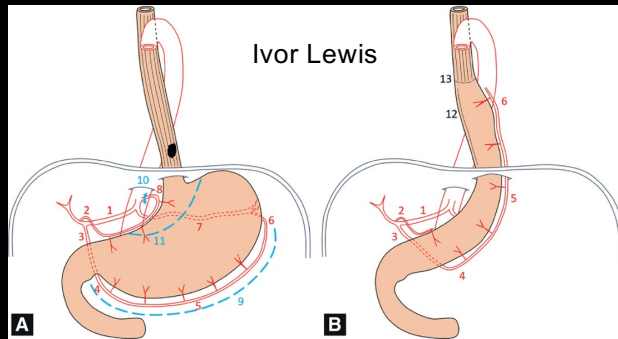
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Treatment

- Localized disease (~22%)
 - Esophagectomy (T1N0M0)
 - Esophagectomy +/- neoadjuvant therapy (debated) (T2N0M0)
 - Esophagectomy after neoadjuvant therapy (T3N0M0)
 - Esophagectomy after neoadjuvant therapy (T4aN0M0) where direct extension can be resected *en bloc*

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Treatment



Veziant J et al. *Diagn Interv Imaging* 2022.

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Treatment

- Locally advanced or unresectable disease
 - Concurrent chemotherapy and radiation therapy
 - Well established for SCC
 - Value for adenocarcinoma less well defined
 - Post-treatment esophagectomy may be of value in a small number of select patients with excellence response to chemoradiation

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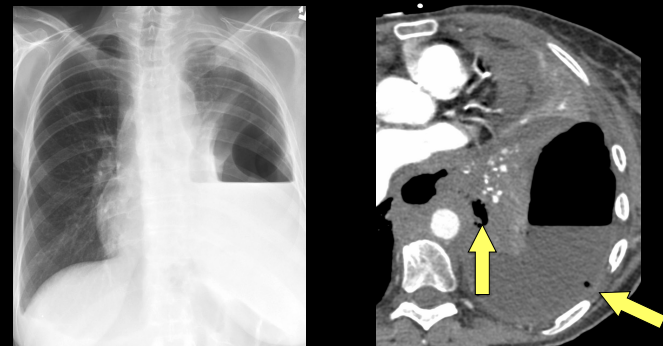
Complications

- Obstruction
- Aspiration
- Fistulas
- Local recurrence
- Metastases

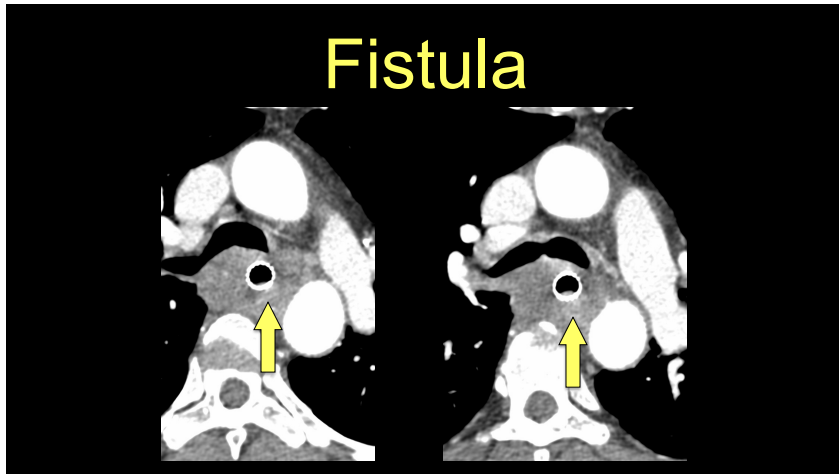


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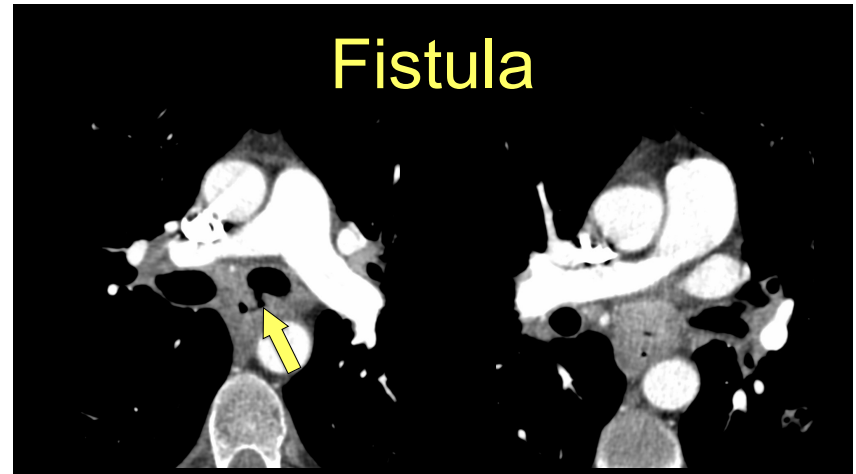
Fistula



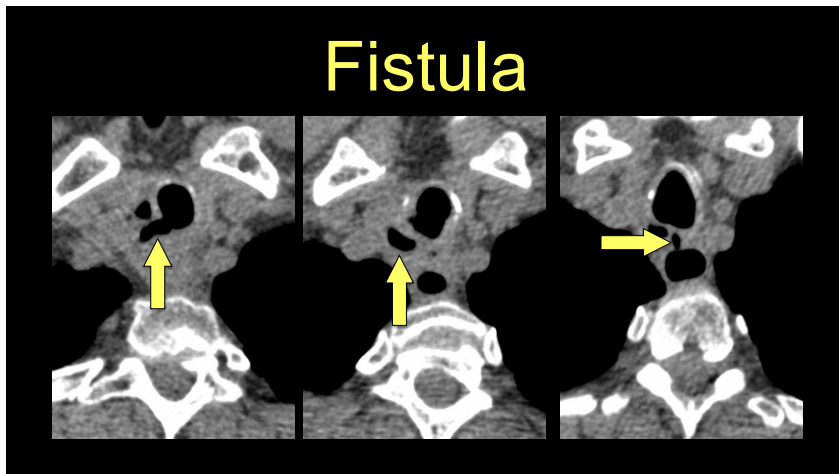
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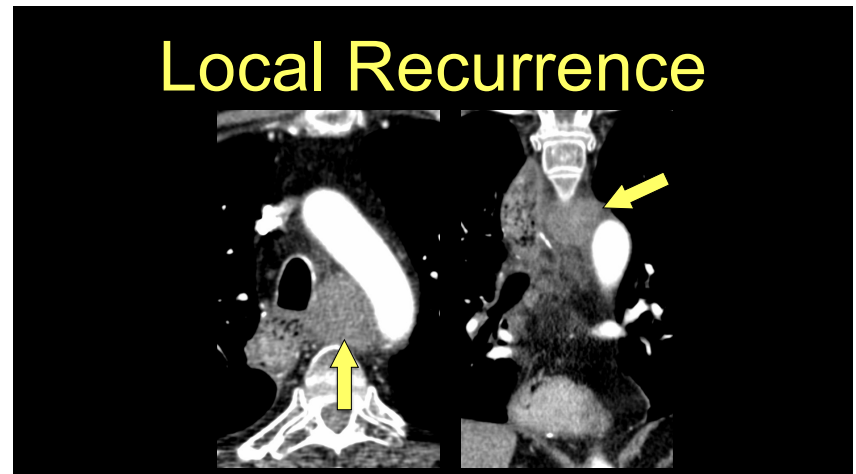
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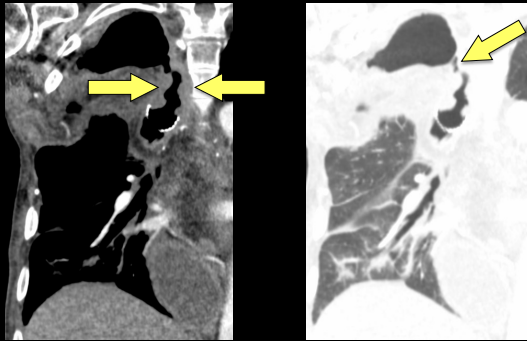


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Local Recurrence



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Metastases



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Summary

- Most esophageal cancers present later in the course of the disease
- Multimodality imaging key for accurate staging
- Squamous cell carcinoma and adenocarcinoma are staged differently

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Comments or Questions?

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