



# Case Presentation

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E.F. Post



# Esophageal Carcinoma

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- Case presentation
- Epidemiology
- Anatomical sites
- Diagnosis
- Classification
- Regional Lymph Nodes
- Prognosis



# History

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51 yo female

3/7 progressive swelling ® neck

Feverish

1/7 dysphagia

NO Quinicy's abscess / tonsillitis

Smoker

No LOW



# Examination

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- T° 39.3°C
- JACCOL: Nil
- P 110, BP 100/60
- Tender, inflamed ® neck
- ENT/ Scope: ® pharyngeal wall shift to midline

# Special investigations

- Blood: WCC 13,5
- CXR:
  - ® Superior mediastinal mass,  
? RUL collapse
- CT Neck / Sup Mediastinum:
  - IJV thrombosis
  - Mediastinal L.A. / central necrosis
  - Non abscess fluid

# Management

- IV antibiotics- triple
- Neck dissection- NO pus in IJV  
Infective change  
wash out, drains
- Thoracotomy- NO mediastinitis  
Nodes ZN (+) / TB
- ICU- No inotropes  
CPAP
- 2° wound closure

# Additional results / info

- 3x swab neck = nil bacteria
- Blood culture = nil growth
- Med nodes = ZN (+)  
?Metastatic SCCa  
Adenocarcinoma
- CT chest = No lung primary  
No RUL collapse  
Mediastinal L.A.
- Lung unit referral – no Mx. change

# Investigations for Metastatic adenoCa :

## Xblock protocol

- Gastroscopy: E-G junction small lesion; biopsy candidiasis. No Ca
- ENT: scope nose, salivary glands
- CT Chest: ? 1° in between nodes
- Gynae: U/S and Papsmear
- Immunohistochemistry: CK27, CK7, TTP = lung 1°



# AdenoCa

- Epithelial malignancy that forms a glandular pattern microscopically
- Also malignancy from glands (not necessarily with a glandular pattern)
- Breast, lung, endometrium, esophagus
- Adenohypophyseal, colon, gallbladder
- Kidney, pancreas, ovary, thyroid, vagina
- Adenocystic Ca: Salivary glands (esp. minor),  
Nose, Sinuses, upper airways



# Esophageal Ca:

## At a glance

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- M > F up to 20:1
- 5.5% GIT malignancy
- Up to 20 % of Ca deaths
- SCCa: most common, Cx/ Tx E.
- Second = AdenoCa; Distal E
- Most middle to lower 1/3
- Dysphagia most common Sx
- Relative asymptomatic till LATE
- Distance is measured from teeth

# Anatomy

- Hypopharynx – stomach
- Posterior to trachea / heart; through posterior mediastinum; via hiatus of diaphragm
- Four layers:
  1. Mucosa
  2. Submucosa
  3. Muscularis propria
  4. Adventitia (NO serosa)

# 4 Regions

- Cervical E: cricoid – thoracic inlet (suprasternal notch), 18cm from incisors
- Upper Thoracic E: T. inlet – Tracheal bifurcation, 24cm
- Midthoracic portion: bifurcation – esophageal/gastric junction; 32 cm
- Lower Thoracic E: intra-abdominal and E-gastric junction; 40 cm

# Investigations

- **CXR** - soft tissue mass/ unclear trachea/ mets
- **Barium swallow** - apple core/ irregular  
Advanced: loss of axis/ fistula/ >10cm
- **Esophagoscopy** - biopsy/ mobility
- **Bronchoscopy** - infiltrate trachea/ nodes
- **CT** - mediastinum/ stomach/ liver
- **Node biopsy** - thoracotomy / FNA
- **Endoscopic ultrasonography** - stag



# Histopathologic type: Ca

Typically arise from epithelial layer

- Squamous cell Ca
- Adenocarcinoma –increasing incidence  
(± Barret's esophagitis)
- Rare:
  - adenoacanthoma
  - undifferentiated
  - carcinoid
  - leiomyosarcoma
  - malignant melanoma
  - Adenocarcinoma from submucosal glands



# Benign Tumors

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## Leiomyoma

Fibromas, Lipomas, Hemangiomas,  
Neurofibromas, Fibrovascular polyps,  
Squamous papilloma



# SCCa

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- > 50 yo, M>F 2:1 range to 20:1
- China (N + E) 100/ 100 000
- RSA, Iran, Puerto Rico, USSR
- Transkei 41% Ca in males
- Black 4x> white
- 5x increase in incidence per decade



# SCCa: Factors

- **Dietary:**
  - def. Vitamins (A,C,B1-3,6)
  - def. Trace elements (Zn)
  - heavy metals
  - fungal contaminants (grain)
  - nitrosamines in food
- **Social:** alcohol (hard liquor)  
smoke (heavy)
- **Esophageal:** longst. Esophagitis
- **Predisposing influences:**
  - Genetic (racial), celiac disease, HPV, ...

# SCCa

Chronic esophagitis / carcinogenic environment - dysplasia - Ca in situ.  
Speed dependent on genetic and race  
20% upper 1/3  
50% middle 1/3

## Morphology:

1. Protruded / fungating 60% - into lumen
2. Flat / Stenosing 15% - rigid, narrowing of lumen
3. Excavated / ulcerative 25% - erodes structures

# Clinical course

Dysphagia – adjust diet, LOW ++

Hemorrhage and sepsis

Aspiration – TEF

5 yr survival:

superficial = 75%

advanced (curative surgery) = 25%

over all E. Ca = 5%



# Adenocarcinoma

- Arise in Barrett's mucosa in lower 1/3 of esophagus
- 1/4 (to 1/3 ) of esophageal tumors
- > 50% lower E. tumors
- Extend into gastric cardia
- Flat or ulcerative
- Usually Dx when T3
- Mucin-producing glandular tumors

# AdenoCa: Clinical Course

- > 40 yr, median 60's
- M>F
- White > black
  
- 50% History: Sx of GERD / HH
- Association with Barrett's esophagus
- Sx: Dysphagia, LOW, bleeding, vomit, "angina"
  
- <15% 5 year survival
- Early Dx and resection: 5 yr 50%

# Barret's Esophagus

- 11% of symptomatic reflux
- Distal mucosa replaced by metaplastic columnar epithelium (more resistant to acid)
- Importance:
  - 30 to 40x increased risk for AdenoCa if have Barret's esophagus
  - risk of bleed
  - stricture formation

No medical Rx decreases risk of Ca in Barret's esophagus

# Spread

- Intra-esophageal: submucosal lymph vessels, prox to 10cm
- Extra E: Trachea, Bronchi, Fascia, Carotid sheath, Vertebrae
- Lymphatic: 50% on admission
- Hematogenous: Liver, Lung, Pleura, Kidney

# Regional Lymph Nodes

- *Cervical esophagus:*

following are regional for cervical esophagus (or distant metastasis for thoracic E.):

Internal jugular

Upper cervical

Peri-oesophageal

Supraclavicular

Scalene



# Regional Lymph Nodes

- *Intrathoracic esophagus* (upper, middle,):
  - Superior mediastinal
  - Tracheobronchial
  - Paratracheal
- *Intrathoracic E* (lower 1/3):
  - Gastric
  - Celiac



# Classification

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- Endoscopic ultrasound or CT: location, depth, lymph node.
- TNM – for clinical and pathological staging

# Primary tumor (T)

Tx	can't be assessed
T0	no evidence
Tis	Carcinoma in situ
T1	Invade lamina propria or submucosa
T2	Muscularis propria
T3	Adventitia
T4	Adjacent structures



# Regional Lymph Nodes (N)

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- Nx            Can't be assessed
- N0            No nodal metastasis
- N1            Regional node mets

# Distant Metastasis (M)

- Mx Can't be assessed
- M0 No distant mets
- M1 Distant mets.

Lower thoracic E:

M1a celiac nodes

M1b other mets

Midthoracic E:

M1a not applicable

M1b nonregional nodes

Upper Thoracic E:

M1a cervical nodes

M1b other distant mets

# Stage Grouping

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II A	T2	N0	M0
	T3	N0	M0
Stage II B	T1	N1	M0
	T2	N1	M0
Stage III	T3	N1	M0
	T4	Any N	M0
Stage IV	Any T	Any N	M1
Stage IVA	Any T	Any N	M1a
Stage IVB	Any T	Any N	M1b

# Management

- Surgery:

1. Remove and anastamose- if fit, 10 cm margins, no mets
2. Bypass
3. Dilate and tube- if mets; survival only 6/12

Radiotherapy

Multimodality: surgery, RoRx, chemoTx



# Surgery

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- Lower E: 2 entry, 2/3 gastrectomy
- Thorax E: 3 entry, stomach pull-up
- TUBE:

Upper 2/3: Proctor Livingstone

Lower 1/3: Celestine tube





# Other Rx

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- RoRx                      No change survival  
                                 Palliation  
                                 cervical E Ca
- Chemo: Bleomycin, etc.
- Gastrostomy: ?Extend suffering

# Prognostic factors

- Location: upper + midthoracic less favourable
- Depth (T): not length
- M > N: worse if distant mets vs nonregional nodes
- Histological type: Not,
  - Except in T1: adeno better than SCC

## 5 year survival rate (%)

Stage 0	>80
I	61
II A T2	42
T3	39
II B T1	31
T2	23
III T3	17
T4	9
IV ANY T	5
ANY T	2



# Prognosis

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- On presentation:
  - < 10% no metastases
  - < 50 % fit for surgery
- Mortality: Surgery 10%  
Tube 15%