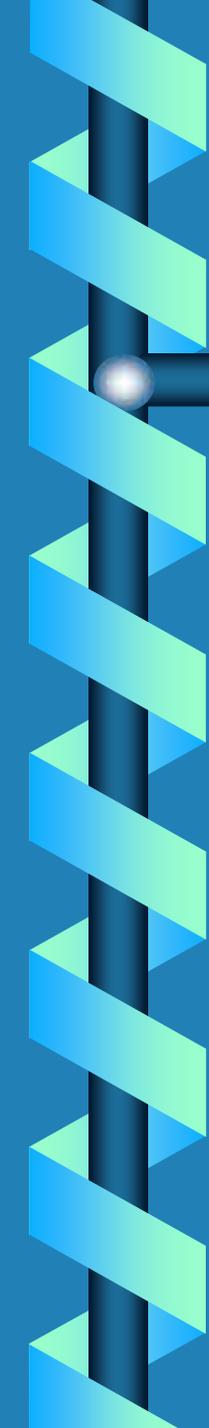




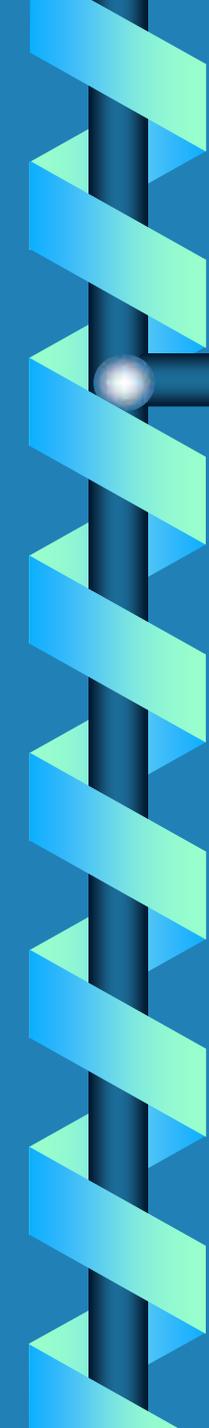
Case Presentation

E.F. Post



Esophageal Carcinoma

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



History

51 yo female

3/7 progressive swelling ® neck

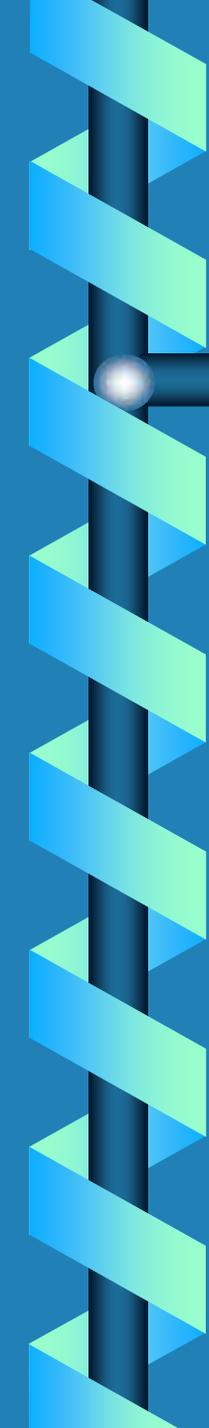
Feverish

1/7 dysphagia

NO Quincy's abscess / tonsillitis

Smoker

No LOW



Examination

- 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

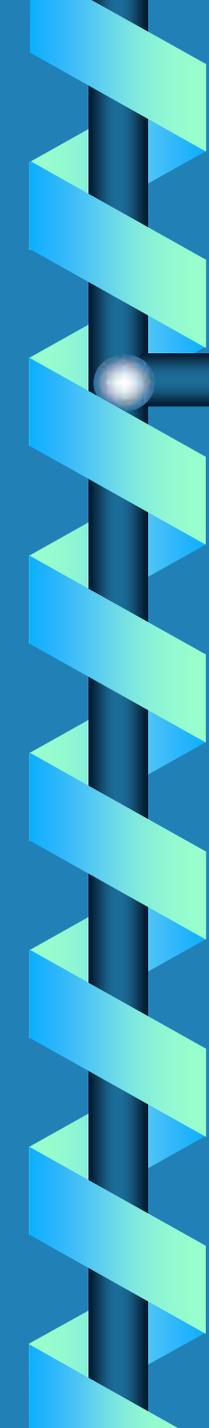
Investigations for Metastatic adenoCa :

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

- 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

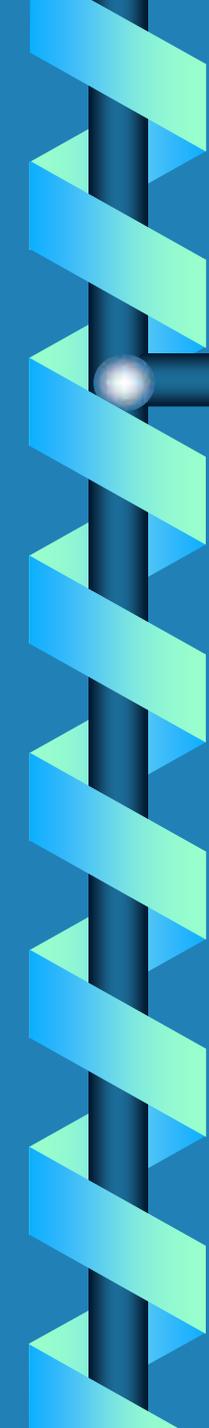
- Hypopharynx – stomach
- Posterior to trachea / heart; through posterior mediastinum; via hiatus of diaphragm
- Four layers:
 1. Mucosa
 2. Submucosa
 3. Muscularis propria
 4. Adventitia (NO serosa)

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

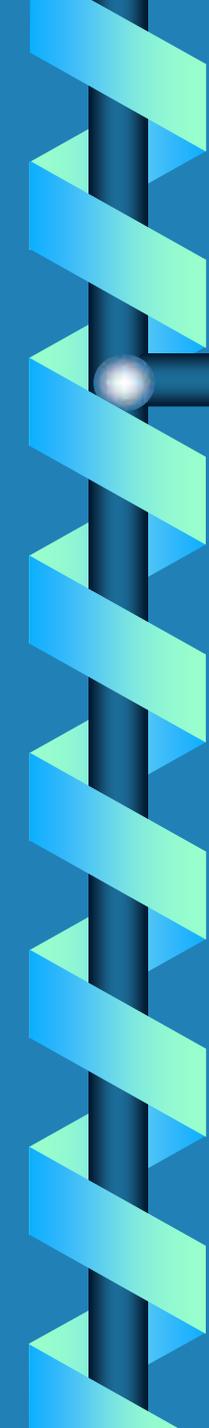
- **CXR** - soft tissue mass/ unclear trachea/ mets
- **Barium swallow** - apple core/ irregular
Advanced: loss of axis/ fistula/ >10cm
- **Esophagoscopy** - biopsy/ mobility
- **Bronchoscopy** - infiltrate trachea/ nodes
- **CT** - mediastinum/ stomach/ liver
- **Node biopsy** - thoracotomy / FNA
-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



Histopathologic type: Ca

Typically arise from epithelial layer

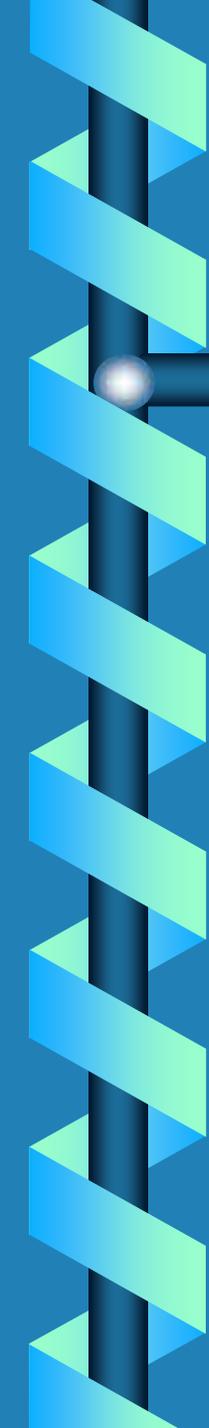
- Squamous cell Ca
- Adenocarcinoma –increasing incidence
(± Barret's esophagitis)
- Rare:
 - adenoacanthoma
 - undifferentiated
 - carcinoid
 - leiomyosarcoma
 - malignant melanoma
 - Adenocarcinoma from submucosal glands



Benign Tumors

Leiomyoma

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



SCCa

- > 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

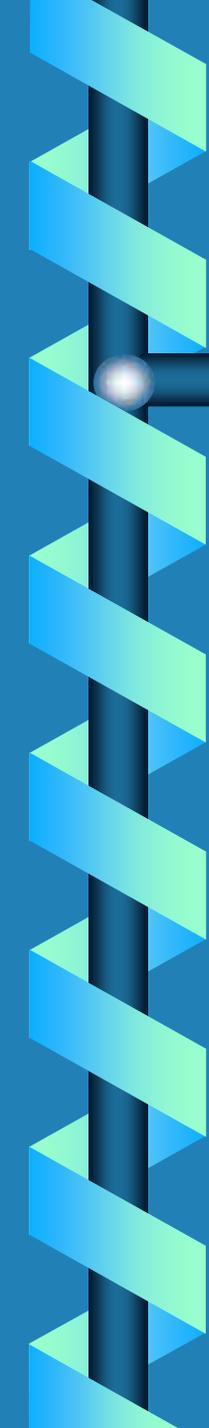
Peri-oesophageal

Supraclavicular

Scalene

Regional Lymph Nodes

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

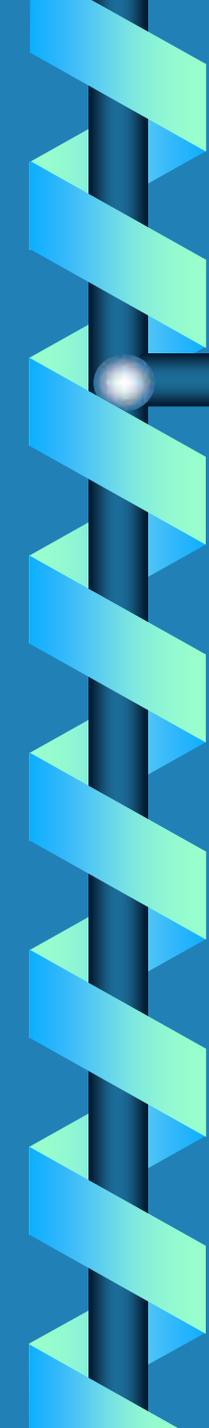


Classification

- 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)

- 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

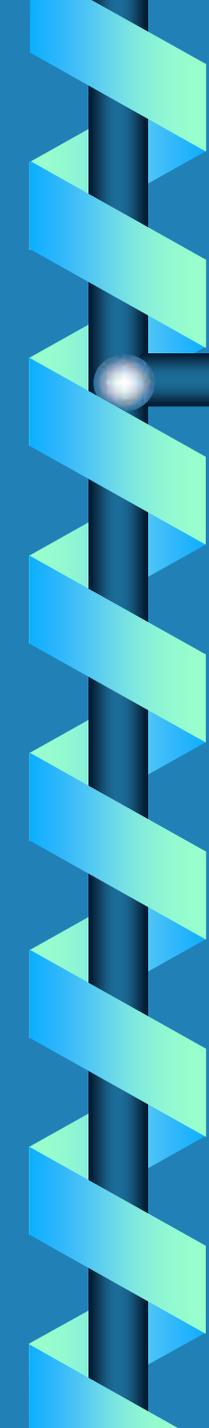
Management

- Surgery:

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

Radiotherapy

Multimodality: surgery, RoRx, chemoTx

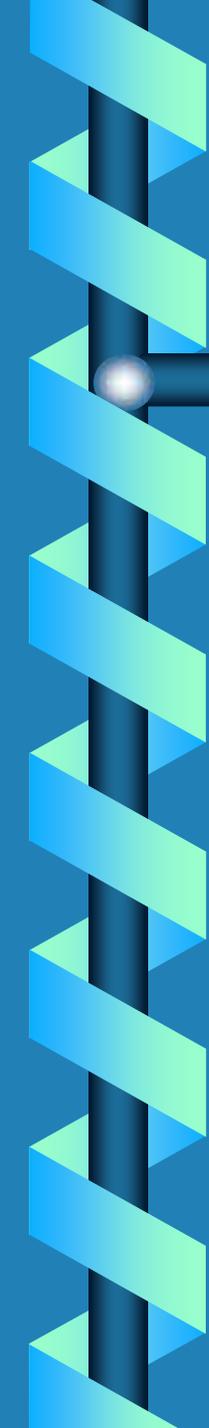


Surgery

- 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

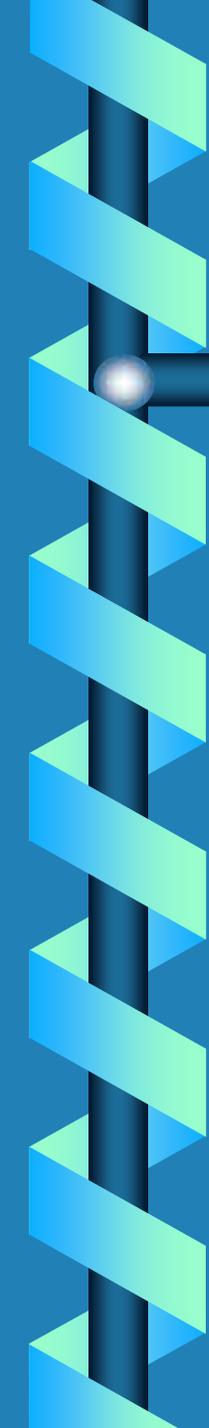
- RoRx No change survival
 Palliation
 cervical E Ca
- Chemo: Bleomycin, etc.
- Gastrostomy: ?Extend suffering

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

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