## Esophageal Carcinoma

### Incidence
- 1% of all malignant tumors and increasing
- Age: Rare below 40, increases afterwards
- Gender: Male to female ratio = 5:1
- Site: Commonest in middle third, adenocarcinoma is commonest in lower third
- Geographical difference: South Africa, Iran, China (cancer belt)

### Causes

<table>
<thead>
<tr>
<th>Squamous cell carcinoma</th>
<th>Adenocarcinoma</th>
</tr>
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<tbody>
<tr>
<td>Smoking</td>
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<tr>
<td>Alcoholism</td>
<td>GERD and Barret esophagus</td>
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<tr>
<td>Nutritional deficiencies</td>
<td>Obesity</td>
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<tr>
<td>History of head and neck SqCC or radiotherapy</td>
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<td>Achalasia</td>
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<td>Plummer Vinson syndrome</td>
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### Site
- Commonest in middle third
- Adenocarcinoma is commonest in lower third

### Gender
- Male to female ratio = 5:1

### Age
- Rare below 40, increases afterwards

### Incidental
- Smoking
- Alcoholism
- Nutritional deficiencies
- History of head and neck SqCC or radiotherapy
- Achalasia
- Plummer Vinson syndrome
- Smoking
- GERD and Barret esophagus
- Obesity

### Pathology

| N/E | Early cases appear as thickened elevated plaques of the mucosa |
| M/E | Squamous cell carcinoma, Adenocarcinoma, Other rare types: Adenoid cystic, Adenosquamous, carcinosarcoma |

### Complication
1. Bleeding
2. Obstruction
3. Fistula formation
4. Aspiration and chest infections
5. Spread
6. Perforation

## Clinical Presentation

1. Dysphagia
   - Onset: late
   - Course: continuous
   - Duration: short
   - Solid first then fluid
   - Associated with very bad general condition
2. Regurgitation
3. Odynophagia, pain
4. Complications (others)

## Investigation

1. Laboratory: CBC, occult blood test in stool, tumor markers
2. Barium swallow: to detect the length of the tumor
   - a) Fungation and ulcerative mass: narrowed irregular filling defects
   - b) Annular mass
     - irregularity of mucosa
     - mid stricture → apple core appearance with evident shouldering
     - lower stricture → rat tail appearance
     - mild proximal dilatation
3. Esophagoscopy + biopsy and cytology: to detect site and extent of the tumor
4. For evaluation metastasis
   - Lung → CXR, CT
   - Liver → US
   - Bone → bone scan, survey
   - Tracheo bronchial tree → bronchoscopy

## Spread

<table>
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<tr>
<th>Local (direct)</th>
<th>Regional (lymphatic)</th>
<th>Systemic (blood)</th>
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<td>Within the esophagus</td>
<td>Cervical → lower deep cervical → supraclav LN</td>
<td>Upper 1/3 → lung</td>
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<td>Recurrent laryngeal N, trachea, aorta, pleura, lung</td>
<td>Middle → paraesophageal → mediastinal LN</td>
<td>Lower 1/3 → Lt gastric → celiac</td>
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<td>Lower 1/3 → liver</td>
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</tbody>
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## Treatment

### Operable → Radical surgery + radiotherapy

1. Carcinoma of upper 1/3 of esophagus → total esophagectomy with appropriate LN dissection
2. Carcinoma of middle 1/3 of esophagus → partial esophagectomy with appropriate LN dissection
3. Carcinoma of lower 1/3 of esophagus → proximal radical esophagectomy with appropriate LN dissection

### Inoperable → Palliative

1. Resectable → palliative resection
2. Irresectable
   - a) Obstruction → LASER tunneling + endoluminal stenting / intubation / insertion of stent for TOF / photodynamic therapy
   - b) Non obstruction → palliative radiotherapy, chemotherapy