Early diagnosis of Oesophageal Cancer

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Topics covered

• Epidemiology
• Risk factors
• BEST results
• BSG guidelines on Barrett’s oesophagus surveillance
Oesophageal Cancer Incidence

• There are around 9,000 new oesophageal cancer cases in the UK every year, that's 25 every day (2013-2015).
• Oesophageal cancer is the 13th most common cancer accounting for 3% of all new cancer cases (2015).
• In males oesophageal cancer is the 9th most common cancer, with around 6,200 new cases in 2015.
• In females oesophageal cancer is the 15th most common cancer, with around 3,000 new cases in 2015.
• Incidence rates for oesophageal cancer are highest in people aged 85 to 89 (2013-2015).
• Around 7 in 10 oesophageal cancer cases are diagnosed at a late stage in England (2014)
Oesophageal Cancer Incidence

- 1 in 55 men and 1 in 115 women will be diagnosed with oesophageal cancer during their lifetime.
- Oesophageal cancer in England is more common in people living in the most deprived areas.
- Oesophageal cancer is more common in White people than Asian or Black people.
- The UK incidence rate is second highest in Europe for males and the highest for females.
Oesophageal Cancer Age-Standardised Mortality Rates UK
Oesophageal Cancer Mortality

Deaths:
7,790

Deaths from oesophageal cancer, 2014, UK

Proportion of all deaths:
5%

Deaths from oesophageal cancer, 2014, UK

Age:
90+
YEARS

Peak rate of oesophageal cancer deaths, 2012-2014, UK

Trend over time:
+46%

Oesophageal cancer mortality rates have increased by 46% since the early 1970s, UK
Oesophageal Cancer Projections
High grade dysplasia of the oesophagus

Patients have a change in the cells where the oesophagus joins the stomach which increases their risk of developing cancer.

For 732 patients diagnosed between April 2014 and March 2016, the Audit found:

- 85% of patients had their initial diagnosis confirmed by a second pathologist.
- 73% of patients had endoscopic treatment to remove the high grade dysplasia.
- 86% of patients were discussed by a multidisciplinary team of clinicians.
- 30% of these patients were found to have small cancer tumours in the removed part of the oesophagus.

Patients with oesophago-gastric cancer

Three-quarters of cancers were in the oesophagus or where the oesophagus meets the stomach. One quarter of cancers were in the stomach.
<table>
<thead>
<tr>
<th>Route to diagnosis</th>
<th>No. of patients</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP referral</td>
<td>13,315</td>
<td>65.2</td>
</tr>
<tr>
<td>Emergency admission</td>
<td>2,786</td>
<td>13.7</td>
</tr>
<tr>
<td>Other hospital consultant</td>
<td>4,039</td>
<td>19.8</td>
</tr>
<tr>
<td>Open access endoscopy</td>
<td>159</td>
<td>0.8</td>
</tr>
<tr>
<td>Barrett’s surveillance</td>
<td>99</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20,398</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Missing</strong></td>
<td><strong>844</strong></td>
<td></td>
</tr>
</tbody>
</table>
Figure 8.1
Unadjusted survival of patients diagnosed between April 2013 and March 2016 in England and Wales stratified by TNM stage and mode of treatment

Surgery with / without neoadjuvant therapy

<table>
<thead>
<tr>
<th>No. of patients at risk</th>
<th>Stage 0 / 1</th>
<th>Stage 2</th>
<th>Stage 3 / 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>TNM stage = Stage 0/1</td>
<td>152</td>
<td>240</td>
<td>506</td>
</tr>
<tr>
<td>TNM stage = Stage 2</td>
<td>144</td>
<td>218</td>
<td>433</td>
</tr>
<tr>
<td>TNM stage = Stage 3/4</td>
<td>134</td>
<td>185</td>
<td>330</td>
</tr>
<tr>
<td></td>
<td>106</td>
<td>136</td>
<td>218</td>
</tr>
</tbody>
</table>
Definitive chemoradiotherapy

![Graph showing survival rates for patients with different TNM stages.]

**No. of patients at risk**

<table>
<thead>
<tr>
<th>Stage</th>
<th>0/1</th>
<th>2</th>
<th>3/4</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 0 / 1</td>
<td>124</td>
<td>118</td>
<td>102</td>
<td>70</td>
</tr>
<tr>
<td>Stage 2</td>
<td>222</td>
<td>203</td>
<td>155</td>
<td>105</td>
</tr>
<tr>
<td>Stage 3 / 4</td>
<td>541</td>
<td>465</td>
<td>331</td>
<td>200</td>
</tr>
</tbody>
</table>
Risk Factors for Oesophageal Cancer

- Oesophageal cancer risk factors vary between adenocarcinoma (AC) and squamous cell carcinoma (SCC), but smoking causes both types.

- Smoking is the main avoidable risk factor for oesophageal cancer, linked to an estimated 66% of oesophageal cancer cases in the UK. Smoking is also related to Barrett’s oesophagus, a precursor for oesophageal AC.

- An estimated 89% of oesophageal cancers in the UK are linked to lifestyle factors including smoking, overweight and obesity (22%), and alcohol (21%).

- Smokeless tobacco, betel quid, and ionising radiation cause oesophageal cancer.

- A diet high in fruit and vegetables may protect against oesophageal cancer – insufficient fruit and vegetables intake is linked to an estimated 46% of oesophageal cancer cases in the UK.

- Certain occupational exposures, meat, and high-temperature drinks may relate to higher oesophageal cancer risk, but evidence is unclear.
BEST

• Single operator Barretts Oesophagus (BO) surveillance list with a trained group of nurses
• Double slot, once a month
• Pentax gastroscopes with i-scan
• 2.5% acetic acid spray to identify areas of loss of aceto-acetic acid whitening (LOAW)
• Biopsies according to Seattle protocol and histology sent according to BSG guidelines
• Prospective database
Barrett’s Esophagus Surveillance Team BEST
Endoscopic images of Barrett's mucosa (×136 zoom using Pentax iScan surface enhancement imaging). (A) Normal. (B) Dysplastic area after application of 3% acetic acid (AcA), showing typical ‘loss of aceto-whitening’ and distortion of mucosal pattern. This usually becomes clear within 30–60 s of AcA application.
Results

- June 2016-January 2018
- 148 gastroscopies
- 70% men, mean age 64 yrs (25-90)
- 1 patient had oesophageal adenocarcinoma
- 1 patient had LGD
- 5 patients had IFD
- 4 referred to St Thomas’ s Hospital for RFA/EMR
Surveillance Protocol

Surveillance strategy for Croydon