Radical Chemo-Radiotherapy for Oesophageal Cancer: An audit of dose-fractionation schedules and timeliness of treatment

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Background

Chemo-radiotherapy is a radical treatment option for patients with oesophageal cancer.

RCR guidelines\(^1\), include both squamous cell carcinoma and adenocarcinoma of the oesophagus as Category 1 tumour types.
Background

Category 1 tumour types are defined as no prolongation of overall treatment time in excess of two days.

Within any audit, this should be met for 95% of the patient group.

- **RCR Dose Fractionation Guidelines 2006**
  - 50.4Gy in 28 fractions, or 50Gy in 25 fractions.

- **Current local guidelines**
  - 50Gy in 25 fractions.
Aims

Å Primary aim - to audit the timeliness and dose fractionation schedule of radical chemo-radiotherapy for oesophageal cancer from Sept 2004 – Jan 2013.

Å Secondary aim - to assess the survival following treatment:
  - median survival
  - 1-year and 2-year overall survival
Standards

1. Most patients should have dose fractionation schedules which comply with RCR guidelines\(^2\)

2. At least 95% of patients should not have a prolongation of overall treatment time in excess of two days\(^1\)

3. There is no possible standard for survival figures.
Methods

- Retrospective audit
- Electronic search identified patients treated between Sept 2004 and Jan 2013.
- 52 patients included
- Analysis was performed using MS Excel and Kaplan-Meier survival was generated GraphPad Prism.
# Demographics

<table>
<thead>
<tr>
<th>Age</th>
<th>Number</th>
<th>Percent</th>
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<tbody>
<tr>
<td>40-49</td>
<td>3</td>
<td>5.7</td>
</tr>
<tr>
<td>50-59</td>
<td>11</td>
<td>21.1</td>
</tr>
<tr>
<td>60-69</td>
<td>23</td>
<td>44.2</td>
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<tr>
<td>70-79</td>
<td>15</td>
<td>28.8</td>
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<table>
<thead>
<tr>
<th>Sex</th>
<th>Number</th>
<th>Percent</th>
</tr>
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<tbody>
<tr>
<td>Male</td>
<td>27</td>
<td>51.9</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>48.1</td>
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<table>
<thead>
<tr>
<th>Histology</th>
<th>Number</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Squamous</td>
<td>46</td>
<td>88.5</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>6</td>
<td>11.5</td>
</tr>
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</table>
94% (49) received a dose fractionation schedules in accordance with RCR guidelines\textsuperscript{2}.

- These patients received 50Gy in 25#
Discussion

Target Achieved

Most patients received the recommended dose fractionation schedule.

- Three (6%) patients received alternative doses
- Two received 54Gy in 30#
- One received 54Gy in 27#
85% (44) completed treatment without a prolongation of treatment in excess of 2 days.
Discussion 2

Not Achieved  Only 85% did not have excessive prolongation to treatment

- 8 (15%) patients had excessive prolongations
- 7 patients - not treated on bank holidays
- 1 patient - 5 day gap due to oesophageal stent insertion; gap calculation was performed to compensate (54Gy in 27#)
Discussion

RCR guidance \(^1\) published December 2008

- 32 patients treated subsequently to this
- Of these - 94% (30/32) had no prolongation in excess of two days
- 2 patients - not treated bank holidays
  - 1 adenocarcinoma (3 days)
  - 1 squamous cell (2 days)
- Both patients identified as Category 2 by clinician
Results

Median survival: 26.1 months (range 4.1-101)

- Overall 1-year survival: 69.2%
- Overall 2-year survival: 56%
Discussion

- Survival comparable with the results of the SCOPE-1 trial\(^3\) - radical chemo-radiotherapy +/- Cetuximab.

- Chemo-radiotherapy alone
  - Median survival 25 months
  - 2-year survival of 56%.
Action Plan

- Results presented locally and nationally
- Ensure patients correctly identified as Category 1, and treated appropriately
- Review local guidelines to ensure compliance with RCR guidelines regarding timeliness of treatment.
Future Plans

- Re-audit to review progress and ensure standards are being maintained.
- Comparison with radical radiotherapy alone
- Review survival due to disease related or other causes
- Review tolerability of treatment
  - Toxicity and long term effects
References


Thank you