90 Days Mortality Rates Following Radical Radiotherapy at QA Hospital, Portsmouth

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Background
It is estimated that at least 50% of all cancer patients will have radiotherapy during their treatment journey. In England, nearly 130,000 radiotherapy courses are delivered each year. Early mortality indicators are vital. 90 day mortality has been suggested by DOH document “Improving outcomes: a strategy for cancer” (NHS England 2011) as an outcome measure following completion of radical or adjuvant radiotherapy. For palliative radiotherapy 30 day mortality is suggested.

RCR / QAH categories of radiotherapy

- **Category 1**: Curative dose of Radiotherapy. Timely compensation of dose interruption
- **Category 2**: Curative dose of Radiotherapy. Non-timely compensation of dose interruption
- **Category 3**: Palliative Radiotherapy
- **Category 4**: Palliative Radiotherapy (emergency)

Objective
To assess 90 day mortality rates for all patients treated with radical intent (neoadjuvant, concurrent and adjuvant) radiotherapy over 18 months period from 01.07.2015 to 31.12.2016. 90 days were calculated from start of radiotherapy.

Standard
Few similar studies previously done in the UK. The largest study was conducted at St James’s oncology centre, Leeds. They reviewed 40,593 courses of radiotherapy delivered between June 2004 and December 2010. They reported 90 day mortality of 4.8% for radical and 1.7% for adjuvant patients and a 30 day mortality of 12% for palliative patients.

Methodology
Data collected retrospectively from electronic database (ARIA). All patients whose 1st radiotherapy dose (Cat 1 and Cat 2) was delivered between 01.07.2015 and 31.12.2016 were included. Treatment intent was as per fractionation at the time of booking. Measured data included clinicians treatment intent by RCR category, dates of treatment, radiotherapy doses and fractionations, cancer site, age, sex, clinician and survival. Mortality data were obtained from electronic patient record (EPR).

Results
- 2428 - number of patients identified by local electronic system
- 2024 - number of radical radiotherapy courses delivered
- 2014 - number of patients who received radical treatment
- M : F = 965 : 1059 (1 : 1.09)
- Median age : 71 years (range 21 – 103 years)

Conclusions
- Our 90 days mortality (dM) rates following radical radiotherapy are well within the standards of reference study (Leeds)
- The electronic system can be improved to reduce errors (majority of recorded data were correct)
- Categorisation of intent (Cat 1/2/3) on initial booking can change during treatment e.g. clinical deterioration, intolerability

Discussion / actions / suggestions
- Local audit of 30 dM following palliative radiotherapy
- Repeat 90 dM audit in 3 - 5 years

References

Figures
- Fig 1. Distribution by tumour sites
- Fig 2. 90 days mortality as per radiotherapy categories
- Fig 3. 90 days mortality by tumour sites
- Fig 4. Comparison with other centres

<table>
<thead>
<tr>
<th>Leeds</th>
<th>Brighton</th>
<th>Florida</th>
<th>Portsmouth</th>
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<tbody>
<tr>
<td>Overall</td>
<td>1.84%</td>
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<tr>
<td>Neoplastic &amp; non-neoplastic (0-1)</td>
<td>4.8%</td>
<td>2.3% (21)</td>
<td>4.2% (29)</td>
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<tr>
<td>Neoplastic (2-3)</td>
<td>1.7%</td>
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