Palliative Radiotherapy for Primary and Secondary Brain Tumours

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Outline

- Overview of the prognostic factors and treatment options for patients with glioblastoma multiforme
- Overview of the prognostic factors and treatment options for patients with cerebral metastases
- Review quality of life data for patients treated with palliative cranial irradiation
- Introduce the QUARTZ trial
Glioblastoma Multiforme

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# Glioblastoma Multiforme

Initial symptoms in 565 patients GBM

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Grade IV (%)</th>
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<tbody>
<tr>
<td>Headache</td>
<td>57</td>
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<tr>
<td>Memory loss</td>
<td>39</td>
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<tr>
<td>Cognitive changes</td>
<td>39</td>
</tr>
<tr>
<td>Motor weakness</td>
<td>36</td>
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<tr>
<td>Language deficit</td>
<td>36</td>
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<tr>
<td>Personality changes</td>
<td>27</td>
</tr>
<tr>
<td>Seizure</td>
<td>23</td>
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<tr>
<td>Visual symptoms</td>
<td>21</td>
</tr>
<tr>
<td>Change in consciousness</td>
<td>18</td>
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<tr>
<td>Nausea and vomiting</td>
<td>15</td>
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</tbody>
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Glioblastoma Multiforme

Group 1: Age < 40, frontal tumor.
Group 2: Age < 40, other tumor sites.
Group 3: Age > 40 and < 65 and KPS > 70 and gross or subtotal resection.
Group 4: Age > 65; or KPS < 70; or biopsy only.

**Treatment Options – Surgery**

Maximal debulking
- Rapid symptomatic improvement
- Facilitate rapid tapering and discontinuation of steroids
- Improve response to subsequent adjuvant therapies ie XRT +/- chemotherapy
GBM – Radiation therapy

- Improves overall survival both in the adjuvant and definitive setting
- 3 RCT from the 1970s showed adding whole brain radiotherapy to surgery more than doubled median survival
- Superior to adjuvant chemotherapy alone
- Dose response
- Fractionation
GBM – Radiation therapy
GBM - Temozolomide

- Oral alkylating agent
- Well tolerated
- Thrombocytopenia, N&V
- Standard of care is concomitant TMZ with radiation (75mg/m² daily) followed by up to 6 cycles of adjuvant TMZ (150-200mg/m² day 1-5 every 28 days)
GBM – Progressive disease

- Careful selection
- Options surgery, re-irradiation, palliative chemotherapy or experimental molecular targeted agents eg bevacizumab
- Differentiating relapse from pseudo progression
GBM - Summary

- Predominantly older patients
- Majority have poor outlook
- Combination therapy is optimal
- Even with maximal therapy the majority will progress within 2 years and treatment at time of progression is limited