Role of radiotherapy in POEMS syndrome

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Materials & Methods

Purpose

To evaluate the role of radiotherapy in POEMS syndrome
- Endpoint: RT response (local & systemic)

- From 2000-2011, 4, retrospectively, newly diagnosed POEMS syndrome, at Yonsei cancer center (n=13)
  - With RT: 11 patients
  - Without RT: 16 patients (unknown: n=1)

- Treatment response
  - Subjective: improvement of symptoms as reported by the patient or the treating physician
  - Objective
    - Local
    - Systemic
      - Objective: VEGF, M protein level, NCV, P/E

- Progression free survival

- Rare reference about total dose of RT, fraction dose, field

- Without radiotherapy for bone lesions in timely

- OS: median 38 months, 5 yr 49%

- PFS: p=0.061

- Involvement: solitary or multiple, both

- Mean: 10 (3-40)

- OS: 7 (2-50)

- PFS: 51 (9-84)

Patient Characteristics

Characteristics

<table>
<thead>
<tr>
<th></th>
<th>n=13</th>
<th>(%)</th>
<th>Initial</th>
<th>RT (n=11)</th>
<th>No RT (n=56)</th>
<th>p-value</th>
</tr>
</thead>
</table>
| Gender
| Male gender   | 10 (80) | 10 (80) | 10 (96) | 0.766 |
| With gradients of features
| 4 features    | 1 (8) | 1 (9) | 6 (11) | 0.314 |
| 4 features    | 4 (31) | 4 (31) | 23 (41) | 0.444 |
| 5 features    | 5 (38) | 5 (34) | 10 (19) | 0.002 |
| 6 features    | 5 (38) | 5 (34) | 10 (19) | 0.002 |
| 7 features    | 2 (15) | 2 (15) | 10 (19) | 0.002 |

- VEGF elevation <10 pg/ml

- Without RT: 91% (p=0.061): favorable

- No RT: 38 (91)

- With RT: 91 (91)

- Median survival 38 months

- 5 yr 49%

- PFS: p=0.061

Survival rate- OS, PFS

Response interval after RT

First response after RT
- 1 (0-6)

Maximum response after RT
- 2 (1-65)

Response

- No RT
- With RT

- OS: median 38 months, 5 yr 49%

- PFS: median 51 months, 5 yr 40%

- Total OS: 65 years (range, 30-50)

- Treatment response (Local+systemic)
  - Without RT: 63% vs with RT: 91% (p=0.061)

- RT response: usually within 6 months (up to 65 ms)

Conclusion

- In POEMS syndrome, local radiotherapy to bone lesions improved local or generalized symptoms

- Local radiotherapy is recommended for solitary or localized bone lesions, other than multiple systemic involvements