Recurrent Malignant Gliomas

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Abstract

Materials and methods: We report a retrospective series of 120 patients treated for recurrent malignant gliomas with bevacizumab alone 2013-2018. There are 120 patients (pts) including 60 women and 80 Men with a sex ratio of 1.2. Results: There are 120 patients (pts) including 60 women and 80 Men with a sex ratio of 1.2. All patients had a surgery, the majority had a large or subtotal excision. 80 pts received Stupp protocole and 40 pts a radiotherapy alone. The recurrence was treated with Bevacizumab alone, 3 pts had a Complete Response, 40 Partial Response, 30 stable response and 45 pts a progression. We report a good tolerance, one pts had a proteinurie grade 3, one grade 1, one patient had a moderate high Blood Pressure, and the last one had a hematuria. Conclusion: Young age, good GE and quality of surgical excision are predictive factors for a good prognosis. Bevacizumab remains the recommended drug for recurrent glioblastomas with good tolerance.

Introduction

Glioblastoma (GBM) is the most common primary malignant tumor of the central nervous system (CNS), accounting for 46.6% of primary malignant brain tumors, 55.4% of gliomas, and 14.9% of all CNS tumors (including metastases) [1]. It predominantly affects adults and is more common in men than in women [2]. About 70% of cases involve individuals aged 45 to 70 years, with an average age at diagnosis of 58 years [3].

Materials and Methods

All patients underwent surgery. This retrospective series covers 120 patients treated for recurrent malignant gliomas with bevacizumab alone from 2013 to 2018. The cohort consists of 120 patients, including 60 women and 80 men, with a sex ratio of 1.2.
Table 2: Age Distribution

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Age (years)</th>
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<tbody>
<tr>
<td>20-30</td>
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<td>30-40</td>
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<td>40-50</td>
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<td>50-60</td>
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<td>60-70</td>
<td>10</td>
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<td>Total</td>
<td>120</td>
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The average age is 46.7 years (range 26-65).

Results (Treatment Response)
The combination of irinotecan and bevacizumab did not improve survival compared to bevacizumab alone and was poorly tolerated.
Combinations of other molecules with bevacizumab have not proven effective.
There are 120 patients (pts) including 60 women and 80 Men with a sex ratio of 1.2.
All patients had a surgery, the majority had a large or subtotal excision. 80 pts received Stupp protocol and 40 pts a radiotherapy alone. The recurrence was treated with Bevacizumab alone, 3 pts had a Complete Response, 40 Partial Response, 30 stable response and 45 pts a progression.
We report a good tolerance, one pts had a proteinurie grade 3, one grade 1, one patient had a moderate high Blood Pressure, and the last one had an hematuria.

Discussion
Issues: Treatments for Recurrent Gliomas
True progression must be distinguished from pseudo-progression, which occurs 1 to 12 weeks after initial treatment (40% of cases).
Treatment strategy for recurrence includes discussion in a multidisciplinary consultation meeting.
Consideration for neurosurgical reintervention?
Consideration for re-irradiation under stereotactic conditions?
Second-line Anti-angiogenic Treatments:

Carboplatin + etoposide: 20 to 30% response rate for high-grade recurrent gliomas, but no impact on Progression-Free Survival (PFS) or Overall Survival (OS).
Reintroduction of temozolomide? After what interval?
Standard or intensified regimen?
Bevacizumab: 50% response rate. PFS at 6 months = 40%.
The combination of irinotecan/bevacizumab does not offer a survival benefit compared to bevacizumab alone and appears to be poorly tolerated.
*The combinations of other molecules with bevacizumab have not been proven effective [4].
Issues with long-term survivors:
We identified six long-term survivors (> 4 years), five males and one female.
Average age: 38.83 years (range 21-51).
Surgical details of the six patients:
Total resection: 2 patients
Substantial resection: 3 patients
Partial resection: 1 patient
Initial treatment with Stupp protocol
Five cases were de novo gliomas, and one was a secondary glioma. Two recurred after the Stupp protocol and are currently on bevacizumab.
Average survival is 79 months (range 48-108 months).

Figure 8: Recurrent Right Frontoparietal Grade III Oligoastrocytoma: April 2016 after 40 Cycles of Bevacizumab

Conclusion
Young age, good general condition, and the quality of surgical resection are predictive factors for a good prognosis [5]. Molecular characterization in this group of patients is crucial to identify those at high risk of recurrence. Bevacizumab remains the recommended drug for recurrent glioblastomas due to its good tolerance.

References