2439. Determining the Role of Surgery in Diagnosis and Treatment of Primary CNS Lymphoma.

DISCLOSURES

- Baldassari MP – no disclosures
- Fox T – no disclosures
- Ye DY – no disclosures
- Velagapudi L – no disclosures
- Leibold AT – no disclosures
- Hafazalla K – no disclosures
- Farrell CJ – no disclosures
- Evans JJ – no disclosures
- Andrews DW – no disclosures
- Judy KD – no disclosures
Primary central nervous system lymphoma (PCNSL) is a rare form of extranodal non-Hodgkin lymphoma (90% DLBCL).

PCNSL is typically treated with a combination of chemotherapy and radiation. However, the role of surgical intervention is controversial, and biopsy may be non-definitive or injurious. Additionally, sensitivities for stereotactic needle biopsy have been reported to be as low as 20—65% but up to 90%.

Few studies investigate efficacy and outcomes between management strategies for CNS lymphoma lesions in surgically accessible areas. We aim to describe our experience.
Sixty-one (61) patients with surgically-treated intracranial PCNSL were identified from a single center academic institution between 2012 and 2018.

Pre-operative, operative, peri-operative and follow-up data was collected retrospectively.

All statistical analysis of this dataset was performed using Statistical Package For Social Science (SPSS) Version 20.0 (SPSS Inc.).
### RESULTS – Patient Information

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Number</th>
<th>Percent</th>
</tr>
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<tbody>
<tr>
<td>Female</td>
<td>23</td>
<td>37.7</td>
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<tr>
<td>Age, mean</td>
<td>64.2</td>
<td>-</td>
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</table>

<table>
<thead>
<tr>
<th>Presenting Symptoms</th>
<th>Number</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Confusion</td>
<td>14</td>
<td>23.0</td>
</tr>
<tr>
<td>Weakness/Paralysis</td>
<td>12</td>
<td>19.7</td>
</tr>
<tr>
<td>Gait Disturbance</td>
<td>11</td>
<td>18.0</td>
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<thead>
<tr>
<th>Surgical Approach</th>
<th>Number</th>
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<tbody>
<tr>
<td>Stereotactic Needle Biopsy</td>
<td>27</td>
<td>44.3</td>
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<tr>
<td>Excisional Biopsy</td>
<td>17</td>
<td>27.9</td>
</tr>
<tr>
<td>Surgical Debulking</td>
<td>17</td>
<td>27.9</td>
</tr>
</tbody>
</table>

- 1.6% incidentally identified.
- 8.2% positive HIV status.
- 33.3% positive CSF cytology.
- 13.1% diagnosed prior to surgery
- 8.2% treated prior to surgery.
Intraoperative frozen pathology failed to illicit a definitive diagnosis in 40.7% of cases despite adequate sampling.

* Differences between treatment method were not statistically significant (p > 0.05)
Mortality within 30 days was 8.2%.

Intraoperative complications and long-term survival were not significantly associated with open vs. stereotactic biopsy.
DISCUSSION

- Our study suggests that intraoperative frozen sections fail to reach a definitive pathological diagnosis in a large percentage of cases, regardless of treatment type. This is an important finding considering the frozen section diagnosis confirming CNS lymphoma provides a decision-point for the surgeon to discontinue surgical resection.
- Our study also suggests that 30-day mortality and overall survival is statistically similar across treatment methods.
- This study is limited by retrospective design, limited sample size, and heterogeneity of included tumors in terms of location, prior treatments, and follow-up.
SUMMARY POINTS

- CNS Lymphoma should be diagnosed via stereotactic or excisional biopsy, but the role of surgical resection is the subject of debate.

- Failure to achieve a definitive frozen-section diagnosis is common across all treatment methods.

- The difference in intraoperative complications, 30-day mortality, and overall survival following the 3 treatment methods are not statistically significant.