Primary brain lymphoma. A brief review of clinical aspects and management

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Abstract

Primary C.N.S. lymphoma is a rare tumor. Five such cases were treated in our clinic between January, 1991, and October, 1993. Four patients had tumor decompression and one had total resection. All of them received radiotherapy (radiation dose 40 Gy) and chemotherapy. One patient expired during the immediate postoperative period. Four patients showed a disappearance of the tumor on CT scan after the complete course of therapy of 9 months. Three patients showed recurrence intracranially at 15, 12, and 10 months. All patients died during follow up except one, who has been alive without recurrence for 10 months. Median survival was 13 months.

Keywords: Chemotherapy, primary brain lymphoma, radiotherapy, surgery, survival.

1 Introduction

Primary brain lymphoma (PBL) is an uncommon tumor. It accounts for less than 2% of primary brain tumors [8, 33]. In 1986, MURRAY et al. [26] collected about 693 cases of primary brain lymphoma from the literature. HENRY et al. [12] found 83 patients of primary CNS lymphoma among 11, 712 patients of primary brain tumors (0.7%). MACKINTOSH et al. [22] reported primary CNS lymphoma in 8 out of 105 patients of CNS lymphoma. Involvement of the brain in systemic lymphoma is found in less than 1% of cases [9]. In recent years, a spurt in the incidence of lymphoma has been reported worldwide due to a rise in the rates of AIDS infection and immuno-suppressive states as well as improved diagnostic facilities [5, 33].

The management protocol of PBL is controversial due to its rarity and heterogeneous biological behavior [2]. The roles of surgical intervention and chemotherapy is doubtful [26]. Radiotherapy together with surgery produced better outcomes than did single modality therapy [1, 26]. So far combination therapy including surgery, radiotherapy, and chemotherapy has produced good results [21, 22]. Even intrathecal chemotherapy alone has proved its efficacy in treatment of PBL [13].

We present five cases of PBL with emphasis on multimodality treatment and review of literature.

2 Material and methods

Between January 1991 to October 1993 five cases of PBL were treated at SGPGI Luckow. None of the patients was immunosuppressed. Four out of five cases were tested for HIV antigen and were found negative. There were four males and one female and their age ranged from 12 to 30 years (mean 19 years) (Table I). All the cases presented with the features of raised intracranial tension of short duration (mean 2.6 months). Two had seizures as a presenting symptom (Table I). CT scan of the head was done for the diagnosis of the lesion. Three patients had solitary tumors and two
presented with multiple tumors. Postcontrast enhancement was present in four cases (Figures 1 and 2). MR scan was done in two cases. One showed a recurrence of mass in the posterior fossa, and the other a periventricular mass (Figures 3 and 5).

Primary treatment was surgical intratumoral decompression in four patients, total surgical resec-

Table I. Clinical profile of patients

<table>
<thead>
<tr>
<th>Case No</th>
<th>Age/sex</th>
<th>Clinical feature</th>
<th>Duration (month)</th>
<th>Radiological feature</th>
<th>Surgery</th>
<th>Histology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>17/F</td>
<td>Seizures</td>
<td>2</td>
<td>Solitary non-enhancing Rt Fr-Pa.mass</td>
<td>CE</td>
<td>Mali. lymph. diffuse small cell</td>
</tr>
<tr>
<td>2.</td>
<td>12/M</td>
<td>Headache Vomiting Diplopia Papilloedema</td>
<td>3</td>
<td>Enhancing post. 3rd ventricular mass</td>
<td>ITD</td>
<td>Mali. lymph. diffuse large cell</td>
</tr>
<tr>
<td>3.</td>
<td>30/M</td>
<td>Headache Seizures</td>
<td>1</td>
<td>Lt. Parietal enhancing mass</td>
<td>ITD</td>
<td>Mali. lymph. diffuse large cell</td>
</tr>
<tr>
<td>4.</td>
<td>16/M</td>
<td>Headache Vomiting Alt. Sensorium</td>
<td>3</td>
<td>Two, enhancing Rt, Fr, &amp; Lt. Occp. mass</td>
<td>ITD</td>
<td>Mali. lymph. diffuse large cell</td>
</tr>
<tr>
<td>5.</td>
<td>20/M</td>
<td>Headache Vomiting Alt. Sensorium Apnoic attacks</td>
<td>5</td>
<td>Enhancing 4th Ventricular &amp; Periventricular Mass in lateral ventricles</td>
<td>ITD</td>
<td>Mali. lymph. diffuse small cell</td>
</tr>
</tbody>
</table>

Fr = Frontal, Pa = Parietal, Occp = Occipital, Mali = Malignant, Lymph = Lymphoma, Alt = Altered
CE = Complete excision, ITD = Intratumoral decompression

Figure 1. CT scan showing enhancing right, frontal & left parietal mass.

Figure 2. CT scan showing intra 4th ventricular mass.