**Introduction**

To retrospective analyze the clinical data of 10 patients with intracranial primary yolk sac tumors and report their outcomes for exploring an optimal treatment strategy.

**Materials & methods**

- Ten patients with yolk sac tumors confirmed by pathological diagnosis who were admitted to Guangdong Sanjiu Brain Hospital between January 2006 and December 2018 were enrolled in this study, including 9 male and 1 female, with a median age of 13 years (range, 3-22 years).

- Except for 1 case in which the patient was lost to follow-up for he decided to abandon radiotherapy after surgery and then was discharged from the hospital, the other 9 patients were treated with partial resection, followed by whole brain radiotherapy and local boosts, and then adjuvant chemotherapy.

- The time it took for serum AFP to decrease to the lowest level (including abnormal situation) or to return to the normal level was recorded. The brain tumor apoplexies before and after treatment were also studied. Finally, the overall survival (OS) and progressive-free survival (PFS) of the patients were analyzed.

**Results**

- The patients were followed-up to February 2019, with a mean follow-up time of 25.44 months. The follow-up analysis showed that the median OS and median PFS were 18 months and 7 months, respectively, and that 1y-OS and 2y-OS were 77.8% and 22.2%, while 1y-PFS and 2y-PFS were 22.2% and 11.1%.

- The time it took for serum AFP to decrease to the lowest level (including abnormal situation) or to return to the normal level was 0-382 days, with a median time of 144 days and an average time of (165.22±131.71) days.

- After being followed-up to February 2019, 4 patients still survived; 4 patients died of tumor recurrence; 1 patient died of severe pneumonia; and 1 patient was lost to follow-up.

**Conclusions**

Yolk sac tumor has a low incidence rate and is easy to recurrence, with a poor prognosis. Resection combined with chemoradiotherapy can prolong the survival time of patients, but the optimal treatment strategy remains unclear and needs further research.

- One of the 2 patients was treated with 3 times of surgeries, he died of tumor progression, with a survival time of 17 months.

<table>
<thead>
<tr>
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<th>6 months</th>
<th>1 year</th>
<th>18 months</th>
<th>2 years</th>
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<tbody>
<tr>
<td><strong>OS</strong></td>
<td>88.9 (8/9)</td>
<td>77.8 (7/9)</td>
<td>44.6 (5/9)</td>
<td>22.2 (2/9)</td>
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<td><strong>PFS</strong></td>
<td>66.7 (6/9)</td>
<td>22.2 (2/9)</td>
<td>11.1 (1/9)</td>
<td>11.1 (1/9)</td>
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