Changes in pituitary comorbidities of adult-onset craniopharyngioma depending on date of diagnosis

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Introduction
Craniopharyngioma is an insidious disease that leads to profound comorbidities. Outcomes of the disease have been studied in depth, but there is little data comparing pituitary comorbidities of cases diagnosed in recent years opposed to before. We hypothesized that advances in endocrinologic diagnostics and neurosurgery have led to a lower degree of comorbidities.

Methods
We investigated 54 patients with adult-onset craniopharyngioma (28 male, mean age 40.4±14.2 years) diagnosed between 1965 and 2009 from our institutions’ records. We split our cohort in two groups: cases diagnosed after 1997 (“recent”) and until that year (“historic”). We compared the presence of pituitary insufficiency between both groups using chi-squared statistics.

Results

<table>
<thead>
<tr>
<th>Year</th>
<th>n</th>
<th>Age</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965-1997</td>
<td>26</td>
<td>34.3±12.3</td>
<td>20.0±9.6 years</td>
</tr>
<tr>
<td>1998-2013</td>
<td>28</td>
<td>46.1±13.5</td>
<td>6.6±4.1 years</td>
</tr>
</tbody>
</table>

no statistically significant difference

- gender distribution
- surgical approach
- radiation therapy
- hypopituitarism before intervention
- tumor compression before intervention
- diabetes insipidus

statistically significant difference (Chi², historic vs. recent)

- extrasellar tumor extension, p = 0.01, OR 4.8
- visual field defects, p = 0.049, OR 3.1
- hypopituitarism: gonadal axis, p = 0.013, OR 6.7
- hypopituitarism: thyroid axis, p = 0.026, OR 5.7
- hypopituitarism: somatotropic axis, p = 0.048, OR 4.8
- hypopituitarism: adrenal axis, p = 0.002, OR 16.2

Conclusion
We found significantly less post-operative pituitary insufficiencies and visual field defects in patients diagnosed after 1997. This might be a consequence of improved surgical approach. Furthermore, differences in tumor extension could be due to improvements in diagnostics and earlier treatment of craniopharyngioma.