Inferior Petrosal Sinus Sampling in Adrenocorticotropic-dependent Cushing’s Syndrome: Experience of a Tertiary Portuguese Hospital

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Introduction

- Cushing’s disease is responsible for 80% of endogenous Cushing’s syndrome.
- However, distinguishing the cause of ACTH-dependent Cushing’s syndrome – Cushing’s disease versus ectopic Cushing’s syndrome – can be extremely difficult.
- Bilateral inferior petrosal sinus sampling has the highest diagnostic accuracy in this evaluation.

**Objective**

- Report our experience of the accuracy of bilateral inferior petrosal sinus sampling in:
  - The differential diagnosis of ACTH-dependent Cushing’s syndrome;
  - Predicting adenoma lateralization in Cushing’s disease.

Results

### Inferior Petrosal Sinus Sampling

- Uneventfully performed in all the patients

<table>
<thead>
<tr>
<th>IPSS</th>
<th>11 patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cushing’s Disease</td>
<td>9 patients</td>
</tr>
<tr>
<td>Ectopic CS</td>
<td>1 patient</td>
</tr>
<tr>
<td>Inconclusive</td>
<td>1 patient</td>
</tr>
</tbody>
</table>

### Cushing’s Disease

- Basal central-to-peripheral ACTH ratios diagnostic for CD in 8 patients (>2)
- Post-CRH central-to-peripheral ACTH ratios diagnostic for CD in 9 patients (>3)
- ACTH lateralization in 8 patients

### Ectopic ACTH CS

- Negative central-to-peripheral pre- and post-CRH ACTH ratios

### Transsphenoidal surgery

- 7/9 patients with Cushing’s Disease
- Histologic examination confirmed the diagnosis of ACTH-secreting pituitary adenoma in all of them

Conclusion

- Inferior petrosal sinus sampling was a safe and well-tolerated procedure in our study group.
- It was effective in the differential diagnosis of ACTH-dependent Cushing’s syndrome and useful in planning Cushing’s disease surgical therapy.

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