A CASE REPORT: POSTERIOR PITUITARY EVALUATED AS MICROADENOMA IN THE MAGNETIC RESONANCE IMAGING

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Introduction

- The posterior pituitary lobe stores the neurosecretory granules and appears as hyperintense on T1 weighted sagittal magnetic resonance images.
- The pituitary adenoma appears as hypointense on T1 weighted magnetic resonance images.
- We report a case whose posterior pituitary lobe mimicking microadenoma.

Case report

Medical history

- A 20-year-old woman evaluated in Gynecology for oligomenorrhea.
- Magnetic resonance imaging of pituitary showed a nodular lesion on the left parasagittal region measured 3 mm in diameter.
- The lesion was hypointense on T1 weighted (Figure 1A) and little hyperintense on T2 weighted (Figure 1B) images which could not be distinguished from artifactal lesion.
- She was referred to Endocrinology.

Laboratory

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSH</td>
<td>4.59  mIU/mL</td>
</tr>
<tr>
<td>LH</td>
<td>6.95  mIU/mL</td>
</tr>
<tr>
<td>Prolactin</td>
<td>27 ng/mL</td>
</tr>
<tr>
<td>FT4</td>
<td>1.12  ng/dL</td>
</tr>
<tr>
<td>TSH</td>
<td>1.98  μIU/mL</td>
</tr>
<tr>
<td>Cortisol</td>
<td>30.99 μg/dL</td>
</tr>
<tr>
<td>ACTH</td>
<td>32.5  ng/mL</td>
</tr>
<tr>
<td>1 mg Dex. sup.</td>
<td>0.887 μg/dL</td>
</tr>
<tr>
<td>Somatomedin-C</td>
<td>271 ng/mL</td>
</tr>
<tr>
<td>GH</td>
<td>1.23  mIU/L</td>
</tr>
</tbody>
</table>

Radiology

- After three months magnetic resonance of pituitary showed a nodular lesion on the left parasagittal posterior region measured 6 mm in diameter.
- The lesion was more hyperintense on T1 weighted images than adenoma and was not taking contrast agent like a cyst.
- The appearance of the lesion could be interfered with fat tissue, sphenoid bone or partial volume artifact.
- The fat-suppressed images were taken; there was no change of intensity on dynamic series and no contour lobulation.
- When axial fat-suppressed images were examined the lesion was identified as the posterior pituitary lobe (Figure 2).

Conclusion

- We report a case of posterior pituitary lobe which was a little asymmetrically thickened and localized on the left parasagittal region.
- This localization caused pseudonodular appearance when surrounded with anterior pituitary lobe on coronal images.
- The posterior pituitary lobe may appear as a hyperintense nodular lesion on T1 weighted images which can be identified with fat-suppressed axial images.
- This is different from the ectopic posterior pituitary which mostly located within the hypothalamus.
- Some anatomical variations may affect the diagnosis of pituitary lesions like suspicious microadenomas.
- The patients may have unnecessary evaluation for a long period.