CLINICAL CHARACTERISTICS AND TUMOR SIZE EVOLUTION IN PATIENTS WITH BILATERAL ADRENAL TUMORS

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OBJECTIVES

To evaluate clinical, imagistic and hormonal characteristics of bilateral adrenal tumors.

DESIGN AND METHODS

• retrospective series of 150 consecutive patients (104F, 46M)
• bilateral adrenal tumors with maximal diameter of at least 1 cm
• evaluated from 2001 to 2015 in the endocrinology clinic of a tertiary university medical center
• clinical, hormonal and imagistic methods.
• diagnosis of subclinical Cushing’s syndrome* - serum cortisol levels >1.8 mcg/dl on 1 mg overnight dexamethasone suppression test and at least one another abnormal hormonal result at glucocorticoid axis evaluation.

RESULTS

• age at diagnosis - 57.26 ± 10.32 years (27-85).
• diagnosis of adrenal tumors – simultaneous (n=122)
  - metachronous (n=28)
• secretion 26.6%
• malignant 9.3% - adrenal carcinoma (n=4)
  - metastasis (n=10)
• follow up -1.84 ± 0.89 years in patients with synchronous tumors
• in patients with metachronous tumors, second tumor was diagnosed after 5.44 ± 9.37 years (max. 49 yrs).

<table>
<thead>
<tr>
<th>Cortisol secreting tumors</th>
<th>Pheochromocytomas</th>
<th>Aldosteron secreting tumors</th>
<th>Nonfunctioning tumors</th>
<th>p (ANOVA) (posthoc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>29</td>
<td>8</td>
<td>3</td>
<td>110</td>
</tr>
<tr>
<td>Age (years)</td>
<td>55.01 ± 10.98</td>
<td>44.00 ± 12.98</td>
<td>56.75 ± 7.35</td>
<td>58.54 ± 9.53</td>
</tr>
<tr>
<td>Blood glucose (mg/dL)</td>
<td>123.7 ± 52.2</td>
<td>105.8 ± 24.7</td>
<td>98 ± 10.1</td>
<td>103.3 ± 37.2</td>
</tr>
<tr>
<td>Systolic blood pressure (mmHg)</td>
<td>137.1 ± 26.6</td>
<td>141.6 ± 12.5</td>
<td>134 ± 26.6</td>
<td>0.3</td>
</tr>
<tr>
<td>Max. tumor diam. – R (cm)</td>
<td>3.48 ± 2.22</td>
<td>2.86 ± 2.05</td>
<td>1.55 ± 1.22</td>
<td>2.23 ± 2.42</td>
</tr>
<tr>
<td>Max. tumor diam. – L (cm)</td>
<td>3.86 ± 2.23</td>
<td>2.46 ± 1.70</td>
<td>1.05 ± 1.13</td>
<td>2.31 ± 2.43</td>
</tr>
</tbody>
</table>

Simultaneous adrenal tumors

CONCLUSIONS

• Cortisol hypersecretion is the most frequent hormonal abnormality in patients with bilateral adrenal tumours.
• Significant correlation between cortisol secretion and tumor size
• Most nonfunctioning tumours are nonevolutive
• 9.3% of patients have primary or secondary adrenal cancer
• Conservative long-term follow up is needed.

References