Hyperaldosteronism in patients with Hyperparathyroidism: 3 cases


**Introduction:**

Hyperaldosteronism may induce elevated parathyroid hormone (PTH) levels, presumably by increasing urinary and fecal losses of Ca\(^{2+}\) and Mg\(^{2+}\). Therefore, this dyshomeostatic balance leads to secondary hyperparathyroidism. Furthermore, PTH stimulates in vitro the secretion of aldosterone in a concentration dependent manner, and increases angiotensin-II-stimulated aldosterone release (by dehydration). Recently, PTH receptors had been described in aldosteronoma tissue in a patient with hyperaldosteronism and hyperparathyroidism.

**Material and Methods:**

We present three patients who were sent to an endocrinologist for treatment and follow-up of primary hyperparathyroidism, with resistant hypertension, and in whom hyperaldosteronism was diagnosed. Aldosterone (Ald) and Renin (re) (RIA) are expressed in pg/ml. The captopril test (CAP) was performed per protocol: minimum of two weeks on doxazosin as sole antihypertensive, minimum 133 mEq sodium intake for three days, basal Ald/re (BAld/re), 1 and 2 hours post-25 mg captopril. Test is positive if after 2 hours ald > 130 or Ald/re > 50.

**Results:**

**CASE 1:** 74 year old male remitted to follow up of primary hyperparathyroidism. Office BP: 160/95 mmHg, on losartan (100 mg), amlodipine (10 mg), hydrochlorothiazide (25 mg), atenolol (50 mg). The ultrasound examination revealed: parathyroid adenoma located in the left thyroid lobe. He rejects parathyroid surgery. He rejects adrenal catheterization/surgery. **Treatment:** eplerenone 50mg b.i.d, cinacalcet 30 mg q.d.

**CASE 2:** 68 year old female referred following parathyroidectomy for parathyroid hyperplasia. Office BP: 200/100 mmHg, on losartan (50 mg), hydrochlorothiazide (12.5 mg), atenolol (50 mg). The patient rejects catheterization/surgery. **Treatment:** eplerenone 50 mg b.i.d.

**CASE 3:** 81 year old female, referred from rheumatology for primary hyperparathyroidism secondary to vitamin D deficit. Office BP: 175/90 mmHg, on nebivolol (5 mg), lercanidipine (20 mg), furosemide (40 mg). Parathyroid disease not detected by ultrasound. **Treatment:** spironolactone 100 mg q.d, cinacalcet 30 mg q.d.

<table>
<thead>
<tr>
<th>Basal Ca (mg/dL)</th>
<th>Basal PTH (mg/dL)</th>
<th>25 OH Vit D (ng/mL)</th>
<th>Initial K (mmol/L)</th>
<th>Inicial office BP (mmHg)</th>
<th>Antihyp. Drugs</th>
<th>Screen Ald/re (pg/mL)</th>
<th>CAP: Basal Ald/re</th>
<th>CAP: 1h Ald/re</th>
<th>CAP: 2h Ald/re</th>
<th>Post-treat. OBP (mmHg)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Case 1</strong></td>
<td>11.1</td>
<td>71 IRMA</td>
<td>44.7 ChL</td>
<td>3.8 (4.4)*</td>
<td>160/95</td>
<td>4</td>
<td>293/2 (146)</td>
<td>352/3 (117.3)</td>
<td>339/2 (169.5)</td>
<td>408/3 (136)</td>
</tr>
<tr>
<td><strong>Case 2</strong></td>
<td>11.4</td>
<td>84 IRMA</td>
<td>47.7 ChL</td>
<td>3.8</td>
<td>200/100</td>
<td>3</td>
<td>171/3 (57)</td>
<td>174/4 (43.5)</td>
<td>222/4 (55.5)</td>
<td>170/5 (34)</td>
</tr>
<tr>
<td><strong>Case 3</strong></td>
<td>10.9</td>
<td>129 ChL</td>
<td>53.5 ChL</td>
<td>4</td>
<td>175/90</td>
<td>3</td>
<td>204/3 (68)</td>
<td>203/2 (101.5)</td>
<td>129/6 (21.5)</td>
<td>169/9 (18.7)</td>
</tr>
</tbody>
</table>

**Conclusion:**

Three cases of hyperaldosteronism associated with hyperparathyroidism were detected in the clinic of a single endocrinologist over 2 years, suggesting that the association is not infrequent, and underlying the importance of ruling out hyperaldosteronism in patients with hyperparathyroidism and moderate severe or resistant hypertension.