Cushing’s Disease Detected Following an Adrenal Incidentaloma

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Case:
- 63 year old ♀
- Referred to Gastroenterology for change in bowel habit
- CT colonogram performed - bulky left adrenal
- Referred to Endocrinology
- Seen in the nurse led incidentaloma clinic

Further history:
- No change in weight
- Thin arms and legs with muscle weakness
- Type 2 diabetic and hypertensive on 3 medications
- Examination - Round face, difficult getting out of chair, thin skin, bruises and dorso-cervical fat pad

Investigations:

Left: Initial CT colonogram reported as showing bulky left adrenal measuring 14mm.
Right: Biochemistry from nurse led incidentaloma clinic and further investigations.

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LH</td>
<td>2.2 iu/L</td>
<td>24 h Urine Free Cortisol</td>
<td>1136 nmol/24h (28 - 221)</td>
</tr>
<tr>
<td>FSH</td>
<td>5.6 iu/L</td>
<td>24 h Urine catecholamines</td>
<td>Normal</td>
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<tr>
<td>Progesterone</td>
<td>2.5 nmol/L</td>
<td>Overnight dex. supp. Test</td>
<td>427 nmol/L (&lt;50)</td>
</tr>
<tr>
<td>Testosterone</td>
<td>1.1 nmol/L (0.2-3)</td>
<td>Pituitary profile</td>
<td>Normal</td>
</tr>
<tr>
<td>Androstenedione</td>
<td>11.0 nmol/L (0.7 - 10.8)</td>
<td>Low dose dex. supp. test</td>
<td>360 (&lt;50)</td>
</tr>
<tr>
<td>DHEA-S</td>
<td>9.6 umol/L (0.9 - 12)</td>
<td>Aldosterone</td>
<td>111 pmol/L (55 - 421)</td>
</tr>
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Discussion:
- This patient was initially referred due to an adrenal incidentaloma.
- Clinical history and examination showed features suggestive of hypercortisolaemia.
- The patient had her initial investigations performed promptly and efficiently through a nurse-led adrenal incidentaloma clinic.
- Reviewing the images of the first CT scan again highlights bilateral bulky adrenals - confirmed with re-imaging through MRI.
- Proceeded to CRH test due to clinical suspicion of pituitary Cushing’s.
- CRH test showed exaggerated ACTH response.

Conclusion:
- Specific nurse led adrenal incidentaloma clinics are useful to ensure patients receive appropriate initial investigations in a timely manner and helps reduce patients’ visits to hospital for appointments.
- Functional adrenal tumours picked up from incidentalomas are not uncommon however functional pituitary lesions discovered following the detection of an adrenal incidentaloma is less common.
- It is important to ensure adequate investigations are performed to confirm the diagnosis before proceeding to definitive management.
- This patient has undergone a trans-sphenoidal hypophasectomy and is doing well on replacement hydrocortisone. She has managed to stop all of her anti-hypertensives and her Cushing’s Disease is in remission.