LONG TERM OUTCOME FROM UNILATERAL ADRENALECTOMY IN PATIENTS WITH PRIMARY ALDOSTERONISM

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Background:
Primary aldosteronism (PA) is the most common cause of secondary hypertension
It affects 20-25% of those with treatment resistant hypertension
If left untreated it has a significant cardiometabolic risk over and above that conferred by hypertension alone
50% are due to a unilateral aldosterone producing adrenal adenoma and therefore curable with unilateral adrenalectomy
However, the number of adrenalectomies in the UK falls far short of this because:
• lack of access to adrenal venous sampling
• sparse long term outcome data
This study examines long term outcomes in patients undergoing unilateral adrenalectomy for PA

Methods
Retrospective case notes review
120 consecutive patients, 51 underwent unilateral adrenalectomy
Follow up data gathered at least 3 months after surgery:
• Resting supine blood pressure (outpatients’ clinic)
• Home blood pressure readings
• Number of antihypertensive drugs pre and post operatively
• Renin and aldosterone measurements
• Renin/aldosterone measured in the absence of interfering medications

Results:
31 males, 20 females, median age 54 (range 30 – 83)
Median follow up 48 months (range 30 – 154)
23/51 (45.1%) had “cured” hypertension (not on antihypertensives post-op)
25/51 (49%) had improved hypertension (still requiring antihypertensives post-op)

Results:
Overall results for all patients:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-Op</th>
<th>Post-Op</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP Median (range)</td>
<td>160/95 (120/80 – 250/150)</td>
<td>130/80 (110/70 – 160/93)</td>
<td>&lt; 0.0001</td>
</tr>
<tr>
<td>No. of antihypertensives Median (range)</td>
<td>3 (1 – 6)</td>
<td>1 (0 – 3)</td>
<td>&lt; 0.0001</td>
</tr>
<tr>
<td>Serum [K⁺] mmol/L Median (range)</td>
<td>3.2 (2.3 – 4.7)</td>
<td>4.4 (3.3 – 5.3)</td>
<td>&lt; 0.0001</td>
</tr>
</tbody>
</table>

Results for patients improved but not cured:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-Op</th>
<th>Post-Op</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP Median (range)</td>
<td>160/98 (140/80 – 250/150)</td>
<td>130/80 (120/70 – 169/93)</td>
<td>0.0004</td>
</tr>
<tr>
<td>No. of antihypertensives Median (range)</td>
<td>3 (1 – 6)</td>
<td>1 (0 – 3)</td>
<td>&lt; 0.0001</td>
</tr>
<tr>
<td>Serum [K⁺] mmol/L Median (range)</td>
<td>3.2 (2.4 – 4.7)</td>
<td>4.5 (3.5 – 5.3)</td>
<td>&lt; 0.0001</td>
</tr>
</tbody>
</table>

More females in “cured” group:
• 17/23 vs 4/25, p < 0.0001

No other differences between those “cured” and those improved but not cured in terms of age, pre-op BP, pre-op [K⁺], number of pre-op antihypertensives, or size of site of excised adenoma
3/51 (5.9%) had no improvement in BP post-op
• Histology in these 3 patients showed typical adenoma in each case

Discussion and Conclusions
Laparoscopic-assisted adrenalectomy provides excellent long term improvements in blood pressure, hypokalaemia and polypharmacy
These data should inform discussions with patients regarding surgical outcomes