Increased risk of cardiovascular disease and increased subclinical atherosclerosis have been reported in CYP with PAI when compared to healthy children. Carotid intima media thickness (CIMT) can be used as an early marker of cardiovascular disease. The severity of adverse metabolic profile has been related to the total hydrocortisone dose and duration of treatment.

**RESULTS**

17 Children (aged 9.9 ± 4.1 years) participated in the cardiovascular aspect of the study. 3 children had Addison’s, 14 had congenital adrenal hyperplasia (9 of whom had salt wasting). 2 children could not tolerate ultrasonography.

**Table 1. Patient characteristics of children with PAI who had CIMT performed.**

<table>
<thead>
<tr>
<th>Parameter (n = 17)</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height SDS</td>
<td>0·81 ± 1·34</td>
</tr>
<tr>
<td>BMI SDS</td>
<td>0·13 ± 1·21</td>
</tr>
<tr>
<td>Height SDS</td>
<td>0·81 ± 1·34</td>
</tr>
<tr>
<td>BMI SDS</td>
<td>0·13 ± 1·21</td>
</tr>
<tr>
<td>Length of time since diagnosis (years)</td>
<td>6·06 ± 4·05</td>
</tr>
<tr>
<td>Hydrocortisone dose (mg/m²/day)</td>
<td>10·8 ± 3·93</td>
</tr>
</tbody>
</table>

7 children showed evidence of hypertension on sitting blood pressure (>95th centile)

4 children showed evidence of diastolic BP >95th centile.

<table>
<thead>
<tr>
<th>Blood pressure measurements</th>
<th>Systolic blood pressure centile (percentile)</th>
<th>75·6 ± 34·2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Diastolic blood pressure centile (percentile)</td>
<td>59·0 ± 25·3</td>
</tr>
</tbody>
</table>

Children with BP readings >95th centile were on HC doses 5·6-10.8mg/m²/day and fludrocortisone doses 0·175 mcg/day.

Doses were reviewed and adjusted in those with hypertension. These measurements will be repeated at their next clinic appointment.

One child has hypertension of unknown cause who is currently being investigated.

**Table 2. Average sitting blood pressure in children with PAI treated with hydrocortisone.**

7 children showed evidence of hypertension on sitting blood pressure (>95th centile)

4 children showed evidence of diastolic BP >95th centile.

**Table 3. Carotid intima media measurements in children with primary adrenal insufficiency.**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Median, IQR</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIMT measurement (mm)</td>
<td>0·41 (0·40-0·48)</td>
</tr>
</tbody>
</table>

CIMT measurements were within normal limits when compared to that of healthy children.1

Linear regression analysis, adjusted for age, length of time since diagnosis/start of hydrocortisone treatment and dose of hydrocortisone taken did not show an association with CIMT values.

**CONCLUSIONS**

These preliminary data show CIMT measurements that are in the normal range, in this cohort of CYP with PAI. Hypertension is evident within this population. Contrary to historical data, early subclinical atherosclerotic changes have not been identified. This may reflect good clinical practice. Hydrocortisone doses are reviewed and adjust regularly, guided by both clinical and biochemical parameters.

**REFERENCES**

(Dalla Pozza, Ehringer-Schetitska et al. 2015)

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