Monitoring and therapy in 232 patients with pregnancy-induced hypertension syndrome

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Abstract: Objectives and Methods To simultaneously detect hemorheology, serum levels of angiotensin II (All), aldosterone (ALD) and endothelin (ET) in 232 patients with pregnancy-induced hypertension syndrome (PHS), and in 200 women with normal late period of pregnant as control. The data were analyzed. Results There were three different conditions: ① patients with high level All; ② some with high level ALD; ③ both All and ALD levels were normal. Using non-invasive method to detect blood flow indices, we found that different types of PHS had different haemodynamic changes. PHS could be classified and treated according to these monitoring indices. Patients with high level All often accompanied with pachemia, hypovolemia, low cardiac output and high peripheral resistance, and could be treated by spasmolysis and expanded volume. High level ALD type, often accompanied with low blood viscosity and increase of blood volume and cardiac output, could be treated by spasmolysis and moderate diuretics, but expanded volume therapy was not suitable. Conclusions The better effectiveness could be shown if different treatment are used for different types of PHS, which are classified according to hemorheology, levels of All, ALD and ET.

Key words: pregnancy-induced hypertension syndrome; hemorheology; angiotensin II; aldosterone; endothelin
2.2 以上参数的治疗包括：① 20 ml 500 ml 每天输液 20 ml，② 以上有 0.35% 或以上高切黏度，③ 以上有 0.58% 右旋糖酐治疗；④ 以上有 0.18% 或以上血浆黏度或人血清黏度的治疗；⑤ 以上有 0.60% 血浆黏度或人血清黏度的治疗；⑥ 以上有 0.58% 或以上全血黏度低的治疗。

2.3 以上参数的治疗包括：

2.3.1 以上参数的治疗包括：

AngⅡ：angiotensinⅡ；ALD：aldosterone；Hct：haematocrit；ET：endothelin；PV：plasma viscosity；

<table>
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<tr>
<th>参数</th>
<th>AngⅡ</th>
<th>ALD</th>
<th>ET</th>
<th>Hct</th>
<th>PV</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=200</td>
<td>66±35</td>
<td>59±27</td>
<td>38±21</td>
<td>0.35±0.03</td>
<td>4.4±0.5</td>
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<tr>
<td>n=118</td>
<td>155±36</td>
<td>46±28</td>
<td>70±28</td>
<td>0.40±0.04</td>
<td>5.0±0.5</td>
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<tr>
<td>n=70</td>
<td>58±13</td>
<td>166±59</td>
<td>73±55</td>
<td>0.33±0.03</td>
<td>4.5±0.9</td>
</tr>
<tr>
<td>n=44</td>
<td>91±40</td>
<td>36±5</td>
<td>77±4</td>
<td>0.36±0.01</td>
<td>4.31±0.24</td>
</tr>
</tbody>
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AngⅡ：angiotensinⅡ；ALD：aldosterone；Hct：haematocrit；ET：endothelin；PV：plasma viscosity；

2.4 以上参数的治疗包括：

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<tbody>
<tr>
<td>n=62</td>
<td>3.94±0.38</td>
<td>5.1±0.5</td>
<td>3.1±0.6</td>
<td>5.1±0.8</td>
<td>0.98±0.18</td>
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<td>n=68</td>
<td>5.1±0.5</td>
<td>2.3±0.4</td>
<td>3.8±0.7</td>
<td>1.9±0.4</td>
<td>1.9±0.4</td>
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<tr>
<td>n=56</td>
<td>3.65±0.29</td>
<td>4.1±0.6</td>
<td>5.9±0.6</td>
<td>1.67±0.30</td>
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患者可分为三型，①轻度血压多中度升高，眼底改变不明显，②血压明显升高，眼底改变明显，③血压显著升高，眼底改变严重，且可有心力衰竭和肺水肿。本研究检测全血黏度、红细胞压积明显高于醛固酮组，而醛固酮组可无低体重儿和新生儿死亡。可见肾素选择性的作用部位不同。在妊娠高血压综合征患者主要表现为高血黏度，促使小动脉收缩而血压升高。肾素可选择性地刺激球状带导致血钠和血容量增加，亦相应增加血钠及血容量增加，血小板聚集功能及血液流变学与肾素活性降低。对不同类型妊娠高血压综合征采用有针对性的治疗应以解痉、纠正低蛋白血症、利尿药常可收到较好疗效。妊娠高血压综合征或巴宾斯基氏征。