**BACKGROUND & PURPOSE**

Prader-Willi syndrome (PWS)
A complex genetic disease associated with growth impairment, severe obesity and metabolic dysfunctions.
High proportion of PWS patients are born small for gestational age (SGA), which also increase the risk of growth impairment and metabolic dysfunction.

The aim of this study
Describe growth outcome and metabolic profiles in GH treated PWS patients.
Investigate the differences in clinical outcomes between adequate for gestational age (AGA) and SGA group

**METHODS**

Inclusion
Genetically verified PWS patients diagnosed at Pusan National University Children’s Hospital between 2008-2019
More than 2 years old
Treated with GH for more than 1 year

Exclusion
who received concurrent GnRHa treatment

Methods
Retrospective chart review
Comparison between SGA and AGA group (SPSS 12)

**RESULTS**

Table 1. Patient characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>All patients (n=55)</th>
<th>SGA (n=20)</th>
<th>AGA (n=35)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (n, %)</td>
<td>32 (58.2)</td>
<td>15 (75.0)</td>
<td>17 (48.6)</td>
</tr>
<tr>
<td>Current age (yr)</td>
<td>9.0±1.40</td>
<td>8.8±3.8</td>
<td>9.2±4.1</td>
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<tr>
<td>Age at GH initiation (yr)</td>
<td>2.2±2.6</td>
<td>1.6±1.8</td>
<td>2.5±2.9</td>
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<tr>
<td>Duration of GH treatment (yr)</td>
<td>6.3±3.0</td>
<td>7.0±2.6</td>
<td>5.9±3.0</td>
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<tr>
<td>Gestational age (weeks)</td>
<td>38.6±1.9</td>
<td>38.8±1.3</td>
<td>38.5±2.2</td>
</tr>
<tr>
<td>Birth weight (kg)</td>
<td>2.68±0.46</td>
<td>2.38±0.29</td>
<td>2.85±0.45</td>
</tr>
<tr>
<td>Genetic causes deletion (n, %)</td>
<td>39 (70.9)</td>
<td>13 (65.0)</td>
<td>26 (74.3)</td>
</tr>
<tr>
<td>uniparental disomy (n, %)</td>
<td>16 (29.1)</td>
<td>7 (35.0)</td>
<td>9 (25.7)</td>
</tr>
</tbody>
</table>

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In GH-treated Prader-Willi syndrome patients, we compared growth outcome and metabolic profile between SGA and AGA group

- Anthropometric parameters did not differ between AGA and SGA group
- Growth hormone effect did not differ between AGA and SGA group
- Glucose level was higher in SGA group, and 2 SGA patient had DM
  so more careful monitoring and prevention for DM will be required in SGA group

**SUMMARY & CONCLUSIONS**

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