Growth Hormone treatment affects body mass index in Prader Willy Syndrome patients under 2 years of age

It’s important to adjust the caloric intake of this patients in order to adequate to their actual needs

It is required to verify these results

BACKGROUND

Prader Willi Syndrome (PWS)

- Genetic disorder: lack of expression paternal Cr 15, q11.2-q13 genes
- Clinical features: hypotonia, cognitive and behaviour disabilities, altered body composition, hyperphagia, hypogenitalism

Treatment with growth hormone (GH)

- Clinical improvement: body composition, cognitive and motor functions
- GH accepted by FDA in 2000, EMEA 2001 → PWS guide on 2013 recommends early introduction of GH (4-6 months)
  - Study Parc Taulí: 2-year longitudinal observational study in PWS treated with GH under 2 years of age
    - Safe
    - Clinical improvement → Better results <15 months: precocious start of speech and walking
    (PEJM 2019 Corripio et al doi.org/10.1515/jpem-2018-0539)

Hyperphagia and obesity

- Dietetic recommendations: 25% decrease in the caloric intake is usually recommended to avoid obesity
- Hypothesis: caloric needs in PWS patients under treatment with GH may be higher the first 2 years of life

AIM

To study the variation of BMI in patients with PWS < 2 years treated with GH and to determine their caloric intake

METHODS

RETROSPECTIVE OBSERVATIONAL STUDY

TREATMENT GROUP (G1):

- SPW <2 years GH treatment

CONTROL GROUP (G2):

- Historical cohort SPW <2 years without GH treatment

Comparing at 9, 12, 15, 18 and 24 months

RESULTS

Characteristics of the groups

<table>
<thead>
<tr>
<th>G1 (n = 12)</th>
<th>G2 (n = 6)</th>
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<tbody>
<tr>
<td>Gender</td>
<td>Girls 42% Boys 58%</td>
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<tr>
<td>Genetic disorder</td>
<td>Deletion 67%</td>
</tr>
<tr>
<td>Me. age start GH</td>
<td>10.75 months (IQR 9-16)</td>
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<tr>
<td>µ± DS caloric intake (kcal/d)</td>
<td>No restriction on caloric intake</td>
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</tbody>
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MEAN

- WEIGHT
- HEIGHT
- BMI

STANDARD DEVIATION SCORE

CONCLUSIONS

- Growth Hormone treatment affects body mass index in Prader Willy Syndrome patients under 2 years of age
- It’s important to adjust the caloric intake of this patients in order to adequate to their actual needs
- It is required to verify these results