Continuous subcutaneous infusion of recombinant LH and FSH during early infancy promotes testicular descent in congenital hypogonadotropic hypogonadism.

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CONTEXT
Cryptorchidism, a common consequence of HH, is treated with orchiopexy.
We previously observed that continuous subcutaneous infusion of gonadotropins restored normal serum testosterone and inhibin B concentrations in two infants with hypogonadotropic hypogonadism (HH) and was associated with testicular descent in one.

OBJECTIVE
Test if subcutaneous gonadotropin infusion within the first year of life can allow testicular descent in 8 boys with HH and bilateral cryptorchidism, aged 0.25-11 months.

METHODS
Continuous subcutaneous infusion (CSI) of rhLH and rhFSH at a daily rate of 50 and 75-150 UI, respectively, aiming at AMH and inhibin B (INB) levels normally observed during postnatal mini-puberty.

RESULTS

![Graph showing increase of testicular volume and stretched penile length](image)

**Hormonal Results**

- FSH and LH levels before and after treatment
- Testosterone levels before and after treatment

**Testicular descent**

<table>
<thead>
<tr>
<th>Tests Before CSI</th>
<th>Tests After CSI</th>
<th>Time to descent (months)</th>
<th>Penis Size (mm)</th>
<th>Testes Volume (ml) (L/R)</th>
<th>Evolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Non-palpable</td>
<td>Bilateral high scrotal position</td>
<td>1</td>
<td>23</td>
<td>0.4/0.4</td>
<td>Stop recently</td>
</tr>
<tr>
<td>2 Non-palpable</td>
<td>Bilateral normal position</td>
<td>4</td>
<td>33</td>
<td>2/2</td>
<td>Stop recently</td>
</tr>
<tr>
<td>3 Non-palpable</td>
<td>Bilateral normal position</td>
<td>1</td>
<td>70</td>
<td>0.8/0.7</td>
<td>2 years: bilateral intra-scrotal position</td>
</tr>
<tr>
<td>4 Non-palpable</td>
<td>Bilateral normal position</td>
<td>4</td>
<td>52</td>
<td>0.8/0.8</td>
<td>16 months: bilateral intra-scrotal position</td>
</tr>
<tr>
<td>5 Non-palpable</td>
<td>Bilateral normal position</td>
<td>4</td>
<td>30</td>
<td>0.4/0.4</td>
<td>Bilateral inguinal position at 1.5 years and non-palpable at 2.5 years -&gt; surgery</td>
</tr>
<tr>
<td>6 Non-palpable</td>
<td>Bilateral normal position</td>
<td>5</td>
<td>30</td>
<td>0.7/0.8</td>
<td>4 years: bilateral intra-scrotal position</td>
</tr>
<tr>
<td>7 Non-palpable</td>
<td>Normal position (L) / High scrotal position (R)</td>
<td>6</td>
<td>35</td>
<td>0.4(L)</td>
<td>Surgery at 3 years for the right testis</td>
</tr>
<tr>
<td>8 Non-palpable</td>
<td>Bilateral normal position</td>
<td>4</td>
<td>40</td>
<td>0.8/0.7</td>
<td>4 years: bilateral intra-scrotal position</td>
</tr>
</tbody>
</table>

- Complete descent in 5 patients
- Incomplete descent in 2 patients (Patient 1: bilateral ; Patient 7: unilateral )
- Orchiopexy was realised in 2/8 patients

CONCLUSION:
Gonadotropin infusion in early infancy seems able to induce complete testicular descent in most cases of cryptorchidism due to HH. If confirmed, this may allow infants to avoid surgical correction.

Bibliography: