SACRAL NERVE STIMULATION FOR COLORECTAL DISEASES: EXPERIENCE IN CHILDREN

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9th European Pediatric Colorectal & pelvic reconstruction symposium
Paris 2016
SACRAL NEUROMODULATION IN CHILDREN


• 2010 : Guys et al - multicentric prospective randomized cross over study in 33 children with urinary and fecal incontinence of neurological origin - 78% positive response for bowel function (J Urol. 2010;184:696-701)

NEUROPHYSIOLOGICAL EFFECTS

• ↑ rectal compliance

• ↑ tonus of the external anal sphincter

• ↓ right colonic bowel movements

• ↑ left colonic and rectal bowel movements
CLINICAL EFFECTS

- ↓ Wexner score > 50%
- ↑ Spontaneous defecation / week
- ↓ Urgency or incontinent episodes
- ↑ Feeling of the urge to defecate
- ↑ Retention time between bowel movements
- Improvement of stool consistency
  ⇒ ↑ Quality of life
PREDICTIVE FACTOR OF EFFICIENCY OF SNM?

- Neurologic diseases
- Fecal incontinence with urgency episodes
- Low intensity to achieve a stimulation during the test period
INCLUSION CRITERIA FOR SNM IN FECAL INCONTINENCE (French Health Authority)

• International consensus 2007:
  • Severe fecal incontinence: more than one accident per week
  • No defect of the external anal sphincter
  • Failure of conservative treatments > 2 years

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EXCLUSION CRITERIA FOR SNM (French Health Authority)

- Congenital Anorectal and pelvic malformations
- Previous colorectal resection
- External anal sphincter defect exceeding 90° in circumference
- Chronic diarrhea resistant to medical treatment
- IBD
- Abdominal pain or hard bowel movements

⇒ So what alternative should we offer to these patients?
POSTERIOR TIBIAL NERVE STIMULATION IN CHILDREN

- Anorectal (ARM) or pelvic malformations
- Hirschsprung’s disease

Easy, non invasive and painless
At home
Adhesive electrodes
EXTERNAL SACRAL NEUROSTIMULATION IN CHILDREN

- **2001**:


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OUR EXPERIENCE – 2011/2013

- **8 children**: 4 high ARM – 3 neurologic malformations - 1 Hirschsprung
- 3 G – 5 B – 10 to 13 years
- **All presented soiling and 6 of them urinary leaks**
- Failure of conservative treatments
- Urostim 2 – low frequency (10 Hz) – current applied just at the sensory level and under skeletal muscle contractions (10 to 25mA)
- **20 mn daily**
- **Wexner score at 2 and 6 months**

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<table>
<thead>
<tr>
<th>Patient</th>
<th>Sex</th>
<th>Pathology</th>
<th>Jorge and Wexner score</th>
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<td>Before treatment by TENS</td>
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<td>Medullar lipoma</td>
<td>12</td>
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<tr>
<td>8</td>
<td>M</td>
<td>Hirschsprung</td>
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# RESULTS / INCONTINENCE

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<th>Patient</th>
<th>Sex</th>
<th>Antegrade irrigation (Malone)</th>
<th>Transanal irrigation with Peristeen</th>
<th>Spontaneous defecation with TENS</th>
<th>Frequency of faecal incontinence</th>
<th>Frequency of urinary incontinence</th>
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<td>Peristeen®</td>
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CONCLUSION

• Sacral neuromodulation should have a place in the management of anorectal malformations and perhaps in Hirschsprung disease.

• We think that posterior nerve tibial stimulation is an alternative to sacral neuromodulation in children and it will be interesting to introduce this procedure early after surgery, specially when dysraphism is associated.

• Inclusion criteria should be evaluated with a larger multicentric cohort.