FEASIBILITY AND RESULTS OF INTRAOPERATIVE NEURONAVIGATION FOR LAPAROSCOPIC PUDENDAL NEUROLYSIS

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Abstract

Pudendal nerve entrapment (PNE) is an uncommon source of chronic pelvic pain. The pudendal neurolysis is an accepted treatment for this disease.

The pudendal nerve anatomy is very variable, up to 48.5% may not be presented as a single trunk and 57.7% of the rectal nerve would not enter the Alcock’s.

This issue could make the surgical neurolysis challenging, but laparoscopic intraoperative neuronavigation (LIN) could help to identify the pudendal nerve (PN) and to ensure its integrity.

Methods and Materials

• Eleven women with PNE diagnosis and without response to other treatments underwent a laparoscopic neurolysis with LIN.
• Electrodes were allocated as showed on the images.
• No muscle relaxation was used.

1. ADDUCTOR MAGNUS (bilateral)
2. Bilateral TIBIALIS ANTERIOR
3. Bilateral MEDIAL GASTROCNEMIUS
4. Bilateral ABDUCTOR HALLUCIS
5. Bilateral EXTERNAL ANAL SPINCTOR
6. Bilateral PERINEUM

Intraoperative Monitoring

TC MERS
Fine Scan EMG
PEM N. perineal del genitourin... 1
Intraoperative Mapping

Record of motor evoked potential (MEP) in the involved muscles
Recording of resting muscle activity in muscles dependent on the bilateral l3-S3 roots.
stimulation of the dorsal nerve of the penis / clitoris and both posterior tibial nerves. Cerebral record in scalp C1-Fx
stimulation of the dorsal nerves of the penis / clitoris and registration in perineal muscle and bilateral EAE
Direct stimulation with a lepatoric bipolar probe and registration in previously mentioned muscles.

Results

The PN could be allocated after the surgery in all the cases.

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• In 2 cases an increase of the response of the EMG could be observed.
• In other 2 the EMG response decreased and remaining unchanged in the other patients.

Conclusions

The laparoscopic neurolysis of the pudendal nerve is a therapeutic option for the pudendal nerve entrapment.

The most common place of pudendal nerve entrapment is between the sacrospinous and sacrotuberous ligament.

The laparoscopic intraoperative neuronavigation is feasible and allows the surgeon to allocate the pudendal nerve and to ensure its integrity after the procedure.

It is feasible and must be performed in all the procedures.

References


Perineal Branch

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<tr>
<th></th>
<th>Right</th>
<th>Left</th>
<th>Bilateral</th>
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<tbody>
<tr>
<td>Hole Nerve</td>
<td>5</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Mean time from diagnosis to treatment</td>
<td>5.5 years</td>
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<tr>
<td>Mean hospital stay</td>
<td>5 days</td>
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<tr>
<td>Mean surgical time</td>
<td>124.4 min</td>
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Pudendal Neurolysis

After the surgery:

4 (50%) of the patients had a complete resolution of the pain
5 (45%) a huge improve
2 (28%) a mild improve of the pain.

NFS prooperative MNI EVOLUTION

1. Right pudendal (perineal branch) Decrease in the amplitude of the PEM pudendo right after direct stimulation in its most proximal portion Portal Weakness MND
2. Right pudendal (perineal branch) Slight decrease in amplitude and increase in latency in right RBC during surgery Great
3. Bilateral pudendal (perineal branch) Sin alterations Great
4. Right pudendal (inferior rectal branch) Instability of the RBC right during surgery Portal Weakness MND
5. Right pudendal (perineal branch) Without modifications Weak Urinary retention due to failure in detrusor contractility
6. Left pudendal (perineal branch) Without modifications Portal Weak Mixed urinary incontinence
7. S3 Injury: No pudendal Without modifications Portal
8. Right S2 Injury: No pudendal Without modifications Great
9. Right pudendal (perineal branch) Intraoperative improvement of the RBC right Portal
10. Right pudendal (perineal branch) Slight decrease in RBC right at the end of surgery Great
11. Right pudendal (perineal branch) Without modifications Portal

Mean age 49.9 years

Mean time from diagnosis to treatment 5.5 years

Mean hospital stay was 5 days