PHOENIX MODIFICATION OF TRANSGLUTEAL PUDENDAL NEUROLYSIS

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Phoenix modification of TG (Roger Robert) procedure

- Sacrotuberous ligament is fully cut and at the end of surgery repaired with cadaveric gracillis tendon
- Nerve Integrity Monitoring system (NIMS-Medtronics)
- High power surgical microscope (NC-4 Zeiss)
Phoenix modification of TG (Roger Robert) procedure

- Nerve is decompressed using sharp dissection with use of micro-instruments
- Nerve is protected with NeuraWrap
- Activated platelet rich plasma matrix graft is used to promote nerve healing
- On-Q pump (I-Flow) is placed next to the nerve
- ST ligament repaired with cadaveric gracillis muscle tendon
NeuraWrap
NeuraWrap

- Tubing made of collagen 1α
- Designed to provide an interface between the nerve and the surrounding tissue
- Remains in place during the active phase of tissue healing and is completely resorbed after tissue response has resolved
- Porous outer layer comprises atubular matrix that mechanically resists compression from surrounding tissue and excludes scar tissue ingrowth
- Semi-permeable inner membrane allows passage of small molecules (i.e. water, ions, metabolites, nutrients), but prevents the escape of endogenous growth factors (i.e. Nerve Growth Factor).
Activated platelet rich plasma matrix graft

- Activated platelets release growth factors
- These growth factors increase activity of Schwann cells to produce myelin necessary for nerve healing
Activated platelet rich plasma matrix graft
On-Q pain pump
On-Q pump

- Pump filled with 500 ml of 0.5% bupivacaine
- Rate of infusion 2 ml/h
- Time of infusion 10 days
- May exchange for a new pump (20 days)
On-Q pain pump

- Excellent postoperative pain control
- Prevention of adhesion formation
  - Bupivacaine inhibits proliferation of fibroblasts (Maurice et al.)
- Reversal of central sensitization
Central sensitization

- Central sensitization is an increase in the excitability of neurons within the central nervous system (dorsal horn), so that normal inputs begin to produce abnormal responses
- Caused by repetitive noxious stimuli to WDR
- Prevention: block of impulses to spinal cord
Results

- 7 patients (4 first procedure, 3 redo)
- All described modifications used
- Mean time from decompression 3 months (1-4)
- VAS pain 7.8 ➔ 3.7 (p= 0.017)
- Sitting time (min) 6.4 ➔ 48.8 (p= 0.09)
TG Pudendal Neurolysis

Robert
- ST Ligament transected
- Nerve decompressed

Hibner
- ST Ligament transected
- Nerve decompressed
- NeuraWrap to protect the nerve
- Platelet rich plasma placed around the nerve
- Bupivacaine pain pump placed next to the nerve
- Repair of ST ligament with cadaveric tendon