Hypothesis / aims of study
• SNM treatment consists out of stimulating lead electrodes in proximity of the sacral roots
• Which lead electrodes are stimulated is determined by the clinician
• Optimal sacral root stimulating is determined by the location where the patients feel the stimulation and the sensory threshold (=sensory response)
• In general the location of sensation is assessed by verbal description
• This study assesses the test-retest reliability of the sensory threshold and a pelvic chart, to assess the location of sensation

Study design, materials and methods
• Single tertiary center, prospective study (December 2017 - March 2018)
• Patients with OAB or NOUR, eligible for SNM
• To map the sensory responses a pelvic dermatome chart was developed with 1cm² squares with coordinates [fig 1]
• Stimulation (210µs, 14Hz) until sensory threshold of electrode settings: 0+/3+, 1+/3+, 2+/3+, 3+/3+, 0+/1+
• Each coordinate corresponds with a location: “perianal”, “genital” or “other” (leg, toe, lower back)
• Procedure was done twice with 10 minutes interval

Results
• 18 consecutive patients were included (age: 57.3 +/- 14.9 years, gender: 89% females, indications: OAB: 89%)
• Sensory threshold
  • Intraclass correlation coefficient showed excellent test-retest reliability (0.954: 95% CI: 0.936-0.967 | p<0.001)
  • Correlation plot showed a strong positive correlation between measurements (r² = 0.924, p < 0.001) [fig 2]
  • Bland-Altman plot showed narrow 95% limits of agreement, including 92% (83/90) of the data [fig 3]
• Location of sensation
  • All patients found it easy to mark specific spots on the pelvic chart
  • In 90% the location of sensation could be described by 1 or 2 coordinates [fig 4]
  • Cohen’s kappa coefficient shows an almost perfect agreement between measurements (p<0.001, (k)=0.79) [fig 5]

Interpretation of results
• A nearly perfect correlation for the ST and an almost perfect agreement for the location of sensation was seen
• Therefore the sensory responses upon stimulation of the different electrode configuration during programming is repeatable

Concluding message
• The use of dermatome chart with coordinates at which the patients mark the place where they feel electrical stimulation on sacral neuromodulation is a reliable tool
• The use of this “sensory passport” is advised to record as baseline document for patients started on sacral neuromodulation as it can be used in set up and troubleshooting sessions

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