

Pudendal Nerve Somatosensory Evoked Potentials in Patients with Postprostatectomy Incontinence and Erectile Dysfunction

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Introduction

➤ Pudendal nerve somatosensory evoked potential (SSEP) has been studied in voiding and erectile dysfunction. We aimed to evaluate correlation with pudendal nerve SSEP and functional outcome in patients undergoing radical prostatectomy.

A. Recording electrode montage

1. Lumbar

Active electrode – L1

Reference electrode – top of the anterior iliac crest

2. Scalp

Active electrode – Cz

Reference electrode – Fz



B. Stimulating electrode

Bipolar ring electrode

– placed around the penis with the cathode proximal and the anode distal



C. Ground electrode – gluteus maximus muscle

D. Stimulus

Duration: 0.2msec Current: 20-30 mA

Average 250 responses until reproducible response are obtained.

Materials and Methods

- From Jan. 2014 to June 2015
- 31 patients who underwent radical retropubic prostatectomy
- At least 1 year of follow-up
- Patients were divided in 2 groups depending on the presence of urinary incontinence (PPI) and erectile dysfunction (ED).
- ED was defined as question 2 and 3 on the International Index of Erectile Function-5.
- Continence was defined as using no pads.

Results

	Continence (22)	Incontinence (22)	P value
Age (years)	67.2 ± 6.1	69.8 ± 5.9	0.154
BMI	23.9 ± 1.7	24.5 ± 2.7	0.431
PSA (ng/mL)	12.1 ± 16.5	8.4 ± 5.9	0.325
Size (cc)	33.4 ± 10.7	30.7 ± 11.8	0.434
OP Time (min)	209.1 ± 41.0	234.1 ± 98.4	0.278
EBL (ml)	203.2 ± 100.2	209 ± 80.6	0.824
P Stage			0.031
T2/T3	17 / 5	9 / 13	
Gleason score			0.276
6	8	7	
7	10	11	
8-10	4	4	
Latency (ms)	17.9 ± 1.7	19.5 ± 2.4	0.14

	Potency (11)	Impotency (33)	P value
Age (years)	67.7 ± 5.7	68.8 ± 6.3	0.633
BMI	24.2 ± 1.2	24.2 ± 2.5	0.939
PSA (ng/mL)	10.8 ± 6.9	10.1 ± 13.8	0.885
Size	33.4 ± 9.2	31.6 ± 11.9	0.664
OP Time	184 ± 37.5	234.1 ± 81.2	0.056
EBL (ml)	190.9 ± 58.9	211.4 ± 98.3	0.520
P Stage			0.723
T2/T3	7 / 4	19 / 14	
Gleason score			0.042
6	2	13	
7	4	17	
8-10	5	3	
Latency (ms)	16.9 ± 1.7	19.4 ± 2.0	0.001

- BMI: body mass index
- Size: prostate size
- P: pathologic
- PSA: prostate specific antigen
- OP:operative
- ms:meter/second

Conclusions

- Our results suggest that pudendal nerve SSEP can be an effective tool in the evaluation of patients with PPI and erectile dysfunction.
- The test can be used to provide more definitive assessment of functional dysfunction.