Poster 643

Men reporting genital numbness- is there a neurological cause?

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Background & Purpose

Men reporting 'numbness' and 'loss of sensations' over the external genitalia present to urological and neurological services and the symptoms are often associated with emotional distress and significantly impact quality of life. In view of the complex innervation of the genitalia from the somatic (pudendal) and autonomic nervous system, a neurological cause for numbness may be suspected.[1,2] This study aims to characterize the clinical features, neurological findings and pelvic neurophysiological assessment of a cohort of men reporting genital numbness.

Methods

Men referred primarily for genital 'numbness', 'loss of sensation' and/or 'loss of erotic sensitivity' to a tertiary referral centre were prospectively assessed. The following information were obtained: sexual difficulties, bladder and bowel symptoms, and possible incriminating factors (medication exposure, cycling, circumcision history and lichen sclerosis). Pelvic neurological examination was performed (sensory testing using von Frey hairs (vFH)[3] and neurotip to examine touch and pain, respectively, and mapping of sensations over the penis, motor testing and reflexes) and recording of pudendal somatosensory evoked potentials (PSEP)[4] (Keypoint neurophysiology system, Optima Medical Ltd).

Results

Fifty-four consecutive men (age mean(SD) 43.02±10.32 years) reporting genital numbness (symptom duration mean(SD) 9.07 ± 9.54 years) were prospectively assessed between 2010 and 2016. Other symptoms included erectile dysfunction (n=36(66.67%)), ejaculatory dysfunction (n=32(59.26%)), bladder symptoms (n=20(35.19%)), and bowel symptoms (n=9(16.67%)). Using vFHs, significant sensory impairment was seen over the entire glans of the penis, compared with the entire shaft ($p < 0.001$), and there was a trend for significant impairment over the ventral shaft, compared with dorsal shaft ($p = 0.066$). The mean latency of the pudendal P40 waveform in PSEP was 42.35 ± 4.52 msec (n=41) and the test was abnormal in six, including absent response (n=1), prolonged response to more than 47.8 msec (n=3), and 7 msec PSEP P40 latency more than tibial P40 (n=2).

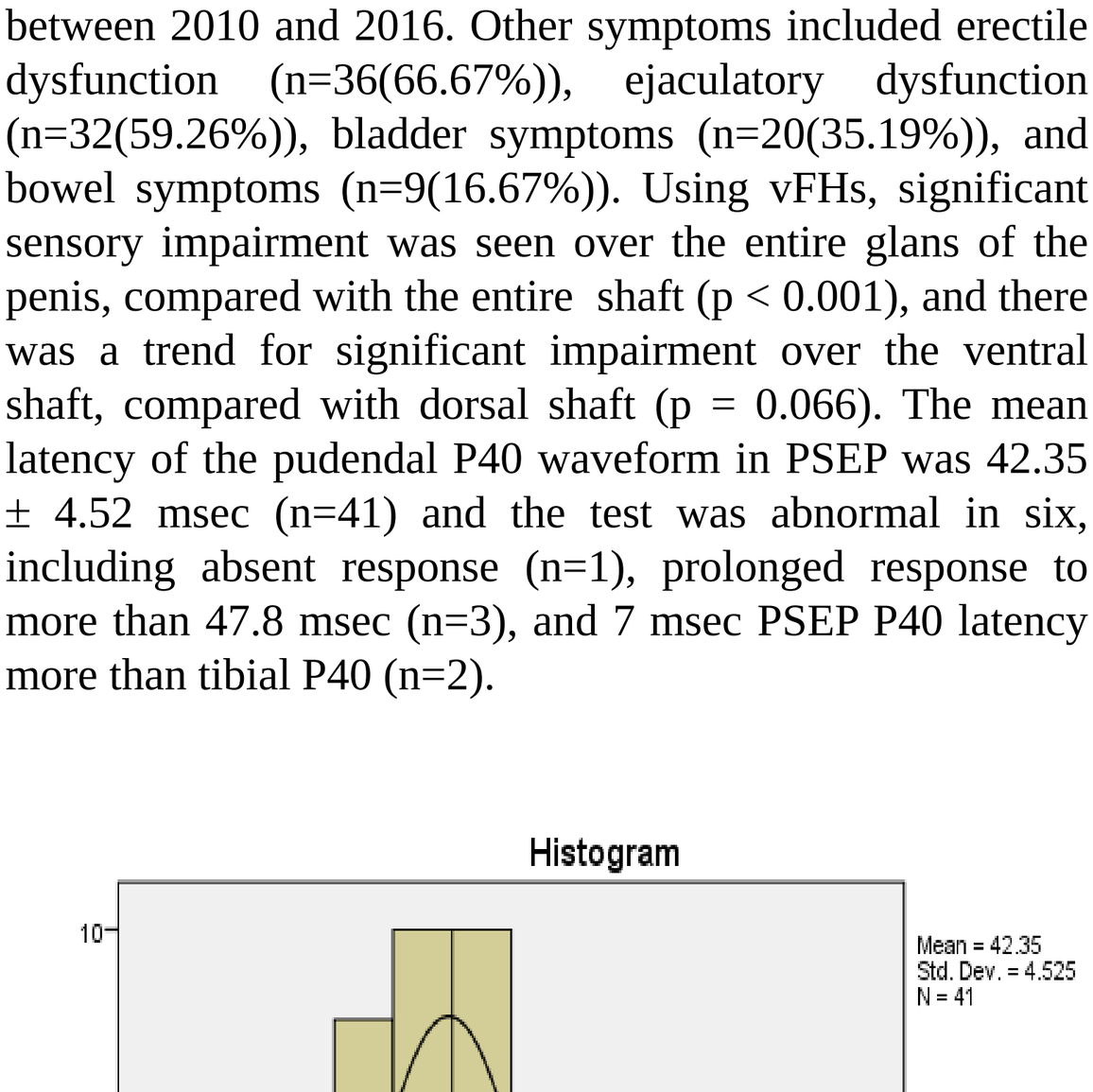

Fig.1. The distribution of P40 latencies of pudendal SEPs in 39 subjects where a response was recordable

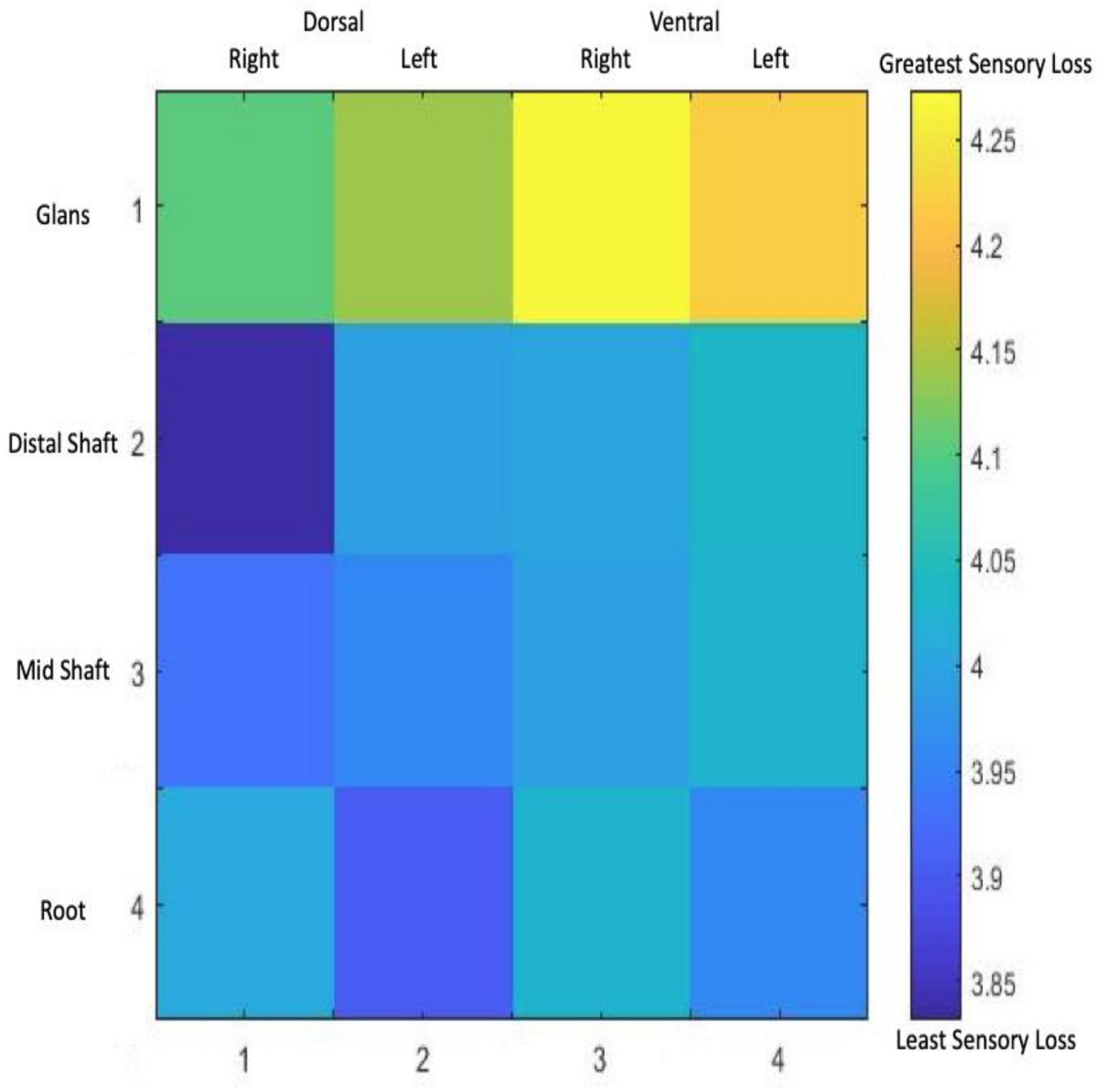

Fig.2. Sensory loss over sixteen different regions over the penis. The colour bar on the right presents the severity of the sensation loss with respect to sensations over the ventral surface of the right index finger used as a control
*Y axis: 1: glans of penis; 2: distal shaft of penis; 3: mid shaft; 4: root of penis. X axis: 1: right dorsal surface ; 2: left dorsal surface; 3: right ventral surface; 4: left ventral surface. N in each region represents the number of the subjects who could feel the filaments, and subjects could not feel even the thickest filament or did not attend the test were excluded.

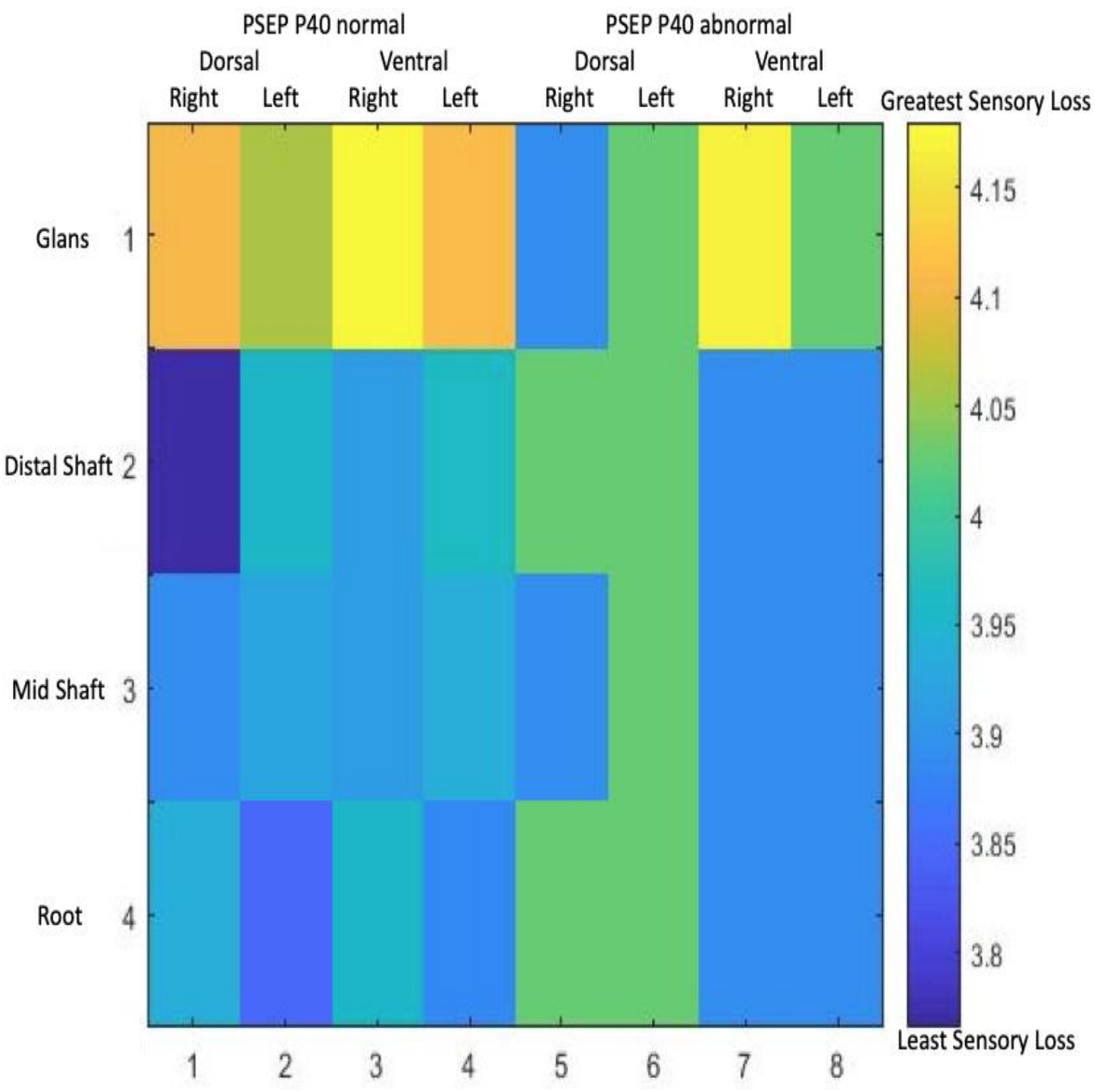

Fig.3. The colour bar presents the severity of the sensation loss in men with normal and abnormal PSEPs
X axis: 1- 4: normal PSEP group (right dorsal, left dorsal, right ventral, and left ventral, respectively); 5- 8: abnormal PSEP group (right dorsal, left dorsal, right ventral, and left ventral, respectively).
Y axis: 1: glans of penis; 2: distal shaft of penis; 3: mid shaft of penis; 4: root of penis.

Conclusion

In most men presenting with genital numbness, sensory loss over the penis did not conform to a specific nerve distribution or sensory dermatome and neurophysiology testing was normal, suggesting a loss of erogenous sensations rather than sensory nerve damage. In a small cohort however, evidence for nerve injury exists and further investigations are required to explore an underlying neuropathy.

References
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