PO 20 - POSTERIOR TIBIAL NERVE NEUROMODULATION DEVICE FOR OVERACTIVE BLADDER - ACTING BEYOND CHRONIC PAIN

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INTRODUCTION

Treatment recommendations for overactive bladder recommend the use of tibial nerve stimulation (TNS) when patients do not respond to pharmacological treatment.

Stimulation of the posterior tibial nerve (PTN) involves the use of electric impulses and delivers retrograde neuromodulation to the sacral plexus that controls the bladder function. Stimulation can be achieved via a percutaneous needle electrode (PTNS), a neuromodulation technique first reported in 1990 **1** and technology advances result in a growing interest in new techniques such as neuromodulation implantable devices.

CASE PRESENTATION

We hereby present a case of a 24 year old woman, victim of a traumatic accident in 2018, which resulted in pelvis fracture and an overactive bladder. The patient was referred from a Physical Medicine and Rehabilitation department where she underwent PTNS treatment, to our Chronic Pain Unit, according to inter-department protocol. Despite the initial 3-month positive response to PTNS, it turned refractory in the short term, with the recurrence of symptoms 3 weeks after the end of the treatment.

We describe the successful implantation of a peripheral neuromodulation device to the PTN through subcutaneous positioning of an electrode lead, with wireless connection to the external pulse transmitter (Stimrouter□).

Both positive sensory stimulation and percutaneous perineural positioning of the lead were confirmed under live ultrasound guidance. No immediate complications were observed. The device's user parameter settings were defined, and instructions on usage, as well as precautions to be taken, were clearly explained to the patient.7 days, 1 and 2 months follow-ups showed a clear improvement in symptoms, with a reduction in the overactive bladder episodes, which allows 6 times more water ingestion. The patient refers to a clear improvement in her quality of life and quality of sleep. No infection signs were observed to date.

DISCUSSION

The implantable neuromodulation device was a safe and effective treatment that resulted in a significant reduction of symptoms and increase in quality of life.

As shown, the potential benefits of regional anesthesia skills extend beyond acute and chronic pain relief. Our understanding of the core techniques for peripheral nerve blockade has been solidified and we are now in an era of refinement and innovation, which promises to increase the reach of regional anesthesia skills in multiple treatments. Technological advances may allow for a rise in peripheral implantable neuromodulation treatments that permit convenient and personalized treatments to be carried out.

REFERENCES

1- International Urogynecology Journal Volume : 10 Issue 1 (1999)