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Letter to the Editor Open Access

Sacral Malformations - Implications in Sacral Nerve Stimulation

Ana Povo*

Department of Anatomy, Faculty of Medicine of University of Porto, Portugal

***Corresponding author:** Povo A, Department of Anatomy, Faculty of Medicine of University of Porto, Portugal, **Tel:** +351914296134; **Fax:** +351225513617; **E-mail:** anapovo@sapo.pt

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To Editor,

Sacral Nerve Stimulation (SNS) is a common treatment for various pelvic floor disorders, such as urinary and faecal incontinence and constipation [1-5].

This technique consists of the introduction of electrodes by a percutaneous approach through the posterior sacral foramina for placement in the proximity of the target sacral spinal nerve for therapeutic low frequency stimulation [1-5].

One of the most important steps of this technique is the correct topographic anatomic identification of the posterior sacral foramina on the body surface of the sacrum [6,7]. Although the sacrum's anatomy is recognized to be highly variable. In the literature there are several studies regarding the variable morphology of the sacrum that also shows high incidence of sacral malformations, ranging between 10% and 58% [8]. A variety of the anatomic malformations are clinically imperceptible. SNS can be difficult or impossible to be performed in these patients with an unknown or undetected malformation of the sacrum [1,3,4].

Recently we reviewed 998 consecutive MRI scans performed to investigate low back pain in patients who had undergone CT and/or X-ray. Sacral malformations were found in almost one quarter of our 998 cases and may represent an under-reported cause of inadequate (o impossible) electrode placement. We therefore recommend a sacrum X-ray before SNS. In all patients with minimal or major symptoms of unknown cause, such as lower back pain, perianal or sciatic pain or radiculopathy, an MRI before SNS may be helpful to exclude sacral malformations and/or guide the surgical procedure. In all patients in whom appropriate foramina placement is difficult or impossible, we recommend a CT scan or MRI to exclude sacral malformation [8].

We believe that, in the future, a three-dimensional anatomical model based on radiologic studies of the sacral malformations will ease the navigation and placement of electrodes in a variety of conditions that are currently contraindications for SNS [8].

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