Stress incontinence predictive factors after sacral anterior roots rhizotomy

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Background.-- The Brindley procedure consists of the implantation of a sacral anterior roots stimulator (SARS) combined with a sacral deafferentation (SAAF). This technique enables to restore an implant driven complete micturition in patients with supракnal lesions with an intact sacral reflex arc. SDAF abolishes neurogenic detrusor overactivity (NDO) but also reflex contraction of the striated urethral sphincter during effort and a decrease of urethral pressure. This may lead to stress incontinence [1].

Aim.-- To estimate the prevalence of stress incontinence one year after SDAF and to examine potential predictive factors of occurrence of post-operative stress incontinence.

Material/Patients.-- Hundred and twenty-four patients with suprasacral SCIs and implanted with a Finetech-Brindley stimulator were included. This is a retrospective and descriptive study, setting in two French centers specialized in the treatment of SCI and SRAS implantation (Rehabilitation Centre of L’Arche, Le Mans and Department of Physical and Rehabilitation Medicine, University Hospital of Nantes).

Method.-- Seven potential predictors were examined: age at surgery, sex, level T10-L2, previous urethral surgery (sphincterotomy, cervicotomy or prostatectomy), independent transfers, maximum urethral closure pressure (MUCP) before surgery less than 30 cmH2O, bladder compliance before surgery less than 30 mL/cmH2O.

Results.-- One year after the surgery, 9.7% of them had a stress incontinence. Before surgery, 91.1% of them had urge incontinence. Univariate analysis indicated that significant predictive factors of stress incontinence: age at surgery (P = 0.164), sex (P = 0.177), level T10-L2 (P = 0.136), previous urethral surgery (P = 0.519), independent transfers (P = 0.172), MUCP before surgery less than 30 cmH2O (P = 0.657), bladder compliance before surgery less than 30 mL/cmH2O (P = 0.332).

Interpretation/Conclusion.-- Our study did not reveal predictive factors of stress incontinence after SDAF. This may be due to the few number of patients with potential predictors who underwent the procedure. The screening of patient undergoing Brindley procedure is crucial to aim an optimal post-operative result. From this study, we propose a preoperative check-up to select the population of patient that may benefit from Brindley procedure.

Reference