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Title (type in CAPITAL LETTERS, leave one blank line before the text) STIMULATION OF THE SACRAL PEDAL MYOTOMES TO IMPROVE THE OVERACTIVE BLADDER.
<u>Aims of Study:</u> To study the effect of pedal sacral myotome neurostimulation on the filling characteristics of the overactive bladder
<u>Methods:</u> 36 patients, mean age 52y., male to female ratio 0.6, with refractory overactive bladders (16 detrusor instability, 6 detrusor hyperreflexia and 10 sensory urgency) participated in the study. Patients were randomized into age-, sex- and diagnosis-matched control and study groups. All patients underwent multichannel urodynamic filling cystometry at 30cc./min. fill rate. After emptying the patient's bladders, cystometry was repeated whilst applying neurostimulation bilaterally via the plantar pedal sacral myotomes at 10Hz. frequency, pulse width 200ms. in continuous mode at maximum tolerated amplitude in the study patients (n=18), whilst the control group (n=18) underwent second fill with sham stimulation.
<u>Results:</u> There were no significant differences in urodynamic parameters between study and control groups without neurostimulation, nor were there any differences between fills in the control (sham stimulation) group. When neurostimulation was applied to the study patients, however, they displayed significantly increased mean volumes at first desire to void (+49cc.; range 35-54; p=0.01), strong desire to void (+53cc.; range 32-73; p=0.006) and maximum cystometric capacity (+58cc.; range 45-75; p=0.01) without a significant rise in detrusor pressure. In patients with detrusor instability, neurostimulation delayed the mean time to first unstable contraction by 74.6s. (range 72-226; p=0.007). The mean amplitude of detrusor contractions in hyperreflexic patients was reduced by 12.0cm.H ₂ O (range 1-24; p=0.02).
<u>Conclusions:</u> Pedal sacral myotomal neurostimulation significantly improves bladder storage characteristics in patients with refractory overactive bladders, suggesting that this may be an effective noninvasive treatment option for such patients.

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