ELECTRICAL MODULATION OF THE PELVIC FLOOR FOR THE TREATMENT OF INTERSTITIAL CYSTITIS

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INTRODUCTION & OBJECTIVES: Pain and severe bladder dysfunction are the main symptoms of Interstitial Cystitis (IC). Since the etiology of the condition remains obscure many forms of antisymptomatic therapy have been tested, usually consisting of a variety of supportive, behavioral, medical or surgical treatments. Electrical modulation of pelvic floor muscles by an implantable electrostimulator (miniaturo™-I, BioControl Medical, Yehud, Israel) resulting in induction of bladder relaxation and in pain reduction, probably by modulating afferent and efferent components of the voiding reflex. We assessed the efficacy of this novel treatment in relieving IC symptoms.

MATERIAL & METHODS: Forty-five patients (mean age of 56.3$\pm$8.6 years) have been recruited to date. Thirty-nine patients passed the preliminary test demonstrating satisfactory benefit from the external electrostimulator connected to a temporary stimulation lead inserted to the pelvic floor. A two-tails student's *t*-test with a P-value less than 0.05 was used to evaluate the statistic significant difference between baseline and average treatment values. Study success was measured by voiding diary, report of average pain using Visual Analog Scale (VAS) & Short-Form McGill Pain Questionnaire (SF-MPQ) and quality of life questionnaire (QLQ).

RESULTS: Thirty-six out of thirty-nine patients completed an average follow-up of 9 months (range: 1-29). Three patients did not complete the study due to lack of efficacy and voluntarily withdrew their consent (3 to 9 months post procedure). On average therapy duration, urinary frequency reduced from 25.1+/- 17.4 at baseline to 18.2+/- 12.8 ($p<0.01$), pain per VAS and per SF-MPQ decreased significantly from 5.9+/-2.1and 34.5+/-10.9 down to 2.9+/- 2.2 and 18.4+/-12.1 (both $p<0.001$, respectively). The O'Leary-Sant Indices also reduced significantly from 31.8+/-3.6 at baseline to 20.8+/- 10.0 ($p<0.001$) on an average electro stimulation period. Significant improvements were also seen in the other QLQ.

CONCLUSIONS: Electric modulation of the pelvic floor activity benefits IC patients by significantly decreasing urinary frequency and pain in addition to improving their quality of life.

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