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MODIFIED THIELE MASSAGE AS A THERAPEUTIC INTERVENTION FOR FEMALE INTERSTITIAL CYSTITIS PATIENTS WITH HIGH-TONE PELVIC FLOOR DYSFUNCTION.

Hypothesis / aims of study

To evaluate the effectiveness of transvaginal manual therapy of the pelvic floor musculature (Thiele massage) in symptomatic female interstitial cystitis patients with high-tone dysfunction of the pelvic floor.

Study design, materials and methods

Twenty-one subjects with documented interstitial cystitis and high-tone pelvic floor dysfunction underwent transvaginal massage using the Thiele stripping technique twice a week for 5 weeks. The Thiele technique consisted of muscle massage from origin to insertion along the direction of the muscle fibers with an amount of pressure tolerable to the subject. The motion was performed 10-15 times during treatment sessions to each of the following muscles in order: coccygeus, iliococcygeus, pubococcygeus, and obturator internus. Symptoms were evaluated prior to massage, at protocol conclusion, and at a mean of 4.5 months after completion of therapy (long-term follow up). Response to treatment was evaluated through the O'Leary-Sant Interstitial Cystitis Symptom (ICSI) and Problem Indices (ICPI), Likert Visual Analogue Scales for urgency and pain, the SF12 Quality of Life scale, and through change in physical examination employing a five-point modified Oxford Scale to document pelvic floor tenderness.

Results

A total of 21 subjects participated in the study. All 21 completed the 5 week Thiele protocol and reported to their first post-protocol visit. Thirteen subjects (62%) reported for the long-term follow up.

At the first post-protocol evaluation, ICSI and ICPI scores significantly improved from baseline means of 8.9 and 8.2 respectively to post-treatment means of 6.9 (p=.015) and 6.3 (p=.039) respectively. The Likert Visual Analogue Scales for urgency and pain improved from pre-protocol means of 4.6 and 5.4 respectively to post-protocol means of 3.0 (p=.001) and 3.5 (p=.005) respectively. The Physical Component Summary (PCS) and Mental Component Summary (MCS) of the SF12 Quality of Life Scale showed significant improvements at the immediate post-protocol visit. The mean PCS score improved from 41.9 to 45.9 (p=.049), with both scores considered to be in the mild disability range. The mean MCS score improved from 46.0 to 50.2 (p=.042), representing an improvement from the mild disability range to a score indicating no disability. Modified Oxford Scale scores for each of the four pelvic floor muscles exhibited a significant decrease at the post-protocol visit (Table I).

At long-term follow up, the ICPI and ICSI remained significantly improved with mean values of 6.0 (p=.049) and 5.1 (p=.02) respectively. The Likert Visual Analogue Scales for urgency and pain also remained significantly improved at long-term follow up with mean values of 3.2 (p=.004) and 2.6 (p=.005) respectively. The PCS and MCS of the SF12 Quality of Life Scale were no longer significantly improved with mean scores of 45.0 (p=.150) and 49.1 (p=.155) respectively. Modified Oxford Scale scores of the pelvic floor musculature remained significantly improved in all muscles but the coccygeus. (Table II)

Interpretation of results

Thiele massage appears to be very helpful in improving irritative bladder symptoms in patients with interstitial cystitis and high-tone pelvic floor dysfunction in addition to decreasing pelvic floor muscle tone.

Concluding message

The data presented here certainly shows enough benefit of Thiele massage to use it on any patient with symptoms similar to those in this study. The technique is easy to learn and does not need to be performed by a physical therapist. Nurses, or even the patient's partner, can

learn and apply the technique to appropriate patients which makes this therapy very accessible. Longer follow up may prove the benefits of the Thiele protocol to fade over time. A future study with more subjects and a possible abbreviated Thiele protocol performed monthly may prove to be very beneficial to patients with IC and high-tone pelvic floor dysfunction. A regimen of exercise taught to patients to perform regularly at home may also help to continue the benefits of Thiele massage over a long-term period.

Table I. Improvement in pelvic floor tone from pre-Thiele protocol to initial post-protocol visit graded on 0-4 scale.

	Pre-protocol mean	Post-protocol mean	significance
Right coccygeus	1.5	0.4	<.05
Left coccygeus	1.7	0.4	<.05
Right illicoccygeus	2.3	0.9	<.05
Left illiococcygeus	3.0	1.0	<.05
Right pubococcygeus	2.4	0.8	<.05
Left pubococcygeus	2.5	1.1	<.05
Right obturator internus	2.2	0.8	<.05
Left obturator internus	1.9	0.6	<.05

Table II. Improvement in pelvic floor tone from pre-Thiele protocol to long-term (mean of 4.5 months post-protocol) visit graded on 0-4 scale.

	Pre-protocol mean	Long-term follow up mean	significance
Right coccygeus	1.5	1.5	N.S.
Left coccygeus	1.7	1.4	N.S.
Right illicoccygeus	2.3	1.4	<.05
Left illiococcygeus	3.0	1.5	<.05
Right pubococcygeus	2.4	1.5	<.05
Left pubococcygeus	2.5	1.7	<.05
Right obturator internus	2.2	1.2	<.05
Left obturator internus	1.9	1.1	<.05

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