Clinical Case Report Competition

Utopia Academy

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First Place Winner

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Effects of massage therapy on raynaud’s phenomenon’s pallor of the phalanges
Abstract

Objective: The goal of the case study is to discover whether massage is an effective modality of treatment for a patient suffering from the effects of Raynaud’s Phenomenon. The main symptom of this condition is pallor of the hands due to poor blood circulation. Methods: A treatment plan consisting of ten sixty minute massages over a span of two months were followed. Swedish massage such as whole body compressions, segmental petrissage of the arm and the forearm, slow rhythmical segmental effleurage, and palmar kneading of the upper posterior trunk, coupled with diaphragmatic breathing and cervical distraction and compression. Stretching techniques of anterior and lateral neck flexor and rotator muscles were also implemented to end of every treatment. Conclusions: Short –term Massage therapy does not have a direct effect on the pallor of hands, especially on the phalanges, but does aid the patient to manage emotional stress, which is considered as one of the main stressors of this condition.

Introduction: Raynaud's Phenomenon (RP) is a condition resulting in a particular series of discolorations of the fingers and/or the toes after exposure to changes in temperature (cold or hot) or emotional events. Skin discoloration occurs because an abnormal spasm of the blood vessels causes a diminished blood supply to the local tissues. Initially, the digit(s) involved turn white because of the diminished blood supply. The digit(s) then turn blue because of prolonged lack of oxygen. Finally, the blood vessels reopen, causing a local "flushing" phenomenon, which turns the digit(s) red. This three-phase color sequence (white to blue to red), most often upon exposure to cold temperature, is characteristic of RP.

Raynaud's phenomenon most frequently affects women, especially in the second, third, or fourth decades of life. People can have Raynaud's phenomenon alone or as a part of other
rheumatic diseases. When it occurs alone, it is referred to as "Raynaud's disease" or primary Raynaud's phenomenon. When it accompanies other diseases, it is called secondary Raynaud's phenomenon.

Methods: Swedish techniques were performed in a segmental manner to avoid compromising the integrity of the tissue health. The patient who participated in this case study exhibited a lack in firm texture of the skin tissue. Upon palpation, it was possible to assume that her skin tissue showed too much of elasticity but showed poor in extensibility. Segmental petrissage of the arm and the forearm were performed in a proximal to distal direction but ended in a brief distal to proximal manner to ensure venous flow back to the heart.

The patient was assessed by taking photographs of the right hand before and after treatment. A photograph with a corresponding date of treatment day and a brief description is given in figures 1-10.

Case History: The patient is a 32 year old woman who works as a Marine (Fish) Biologist in Vancouver, British Columbia. She has been diagnosed with Raynaud’s Phenomenon since she was sixteen and has suffered from this condition ever since. Her occupation requires her to submerge her forearm and arms in the cold waters of the Fraser River to perform incisions and tests on Wild Sockeye Salmons. Her occupation is already a main contributor to her existing condition. The patient also reported heavy to moderate level of psychosocial and occupational stress.
The treatment plan was designed to promote blood circulation mainly to the phalanges but not excluding the hands via manual techniques of massage therapy.

<table>
<thead>
<tr>
<th>Treatment No. 1-6</th>
<th>Treatment No. 7-9</th>
<th>Treatment no. 10</th>
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<tbody>
<tr>
<td>Diaphragmatic Breathing</td>
<td>In the 7th to tenth treatment, a new system was tried. The starting position was changed from prone to supine with a goal to speed up the decrease of sympathetic nervous firing:</td>
<td>In the last treatment, the same techniques used in the 7th to 9th treatment was performed. However, in this case, the client asked that I add more pressure and perform less conservative stretching of her neck and pectorals since she felt that she was getting better at handling her emotional stress.</td>
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<td>Full body compressions</td>
<td>Supine: -Manual Lymph Drainage of the face with face and scalp massage using gentle and relaxing Swedish techniques</td>
<td>The only addition to the techniques used was hair pulling which immediately made the client fall asleep.</td>
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<tr>
<td><strong>Prone:</strong> -Segmental Effleurage of posterior upper trunk muscles -Segmental Palmar Kneading -Reshaping of the Upper Trapezius muscle</td>
<td>-Gentle neck massage of the scalenes, sternocleidomastoids, and the hyoid muscles. The posterior neck muscles were addressed as well with gentle finger tip kneading of all insertions and ended with suboccipital release.</td>
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<tr>
<td><strong>Supine:</strong> -Segmental effleurage of bilateral arm and forearm with the direction mainly from proximal to distal but ending every treatment in a distal to proximal manner to ensure venous return to the heart. -Specific Neuromuscular techniques and stretching of bilateral flexor, extensors, rotators and lateral flexors of the cervical musculatures. -Stretching of the pectoral muscles</td>
<td>-Segmental effleurage of bilateral arm and forearm with the direction mainly from proximal to distal but ending every treatment in a distal to proximal manner to ensure venous return to the heart.</td>
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**Results:**

The goal to increase blood circulation to phalanges and hands was not achieved. Structures involved displayed the same amount of pallor before and at the end of every treatment. Manual techniques of massage therapy do not show an obvious effect on the main physical symptom of this condition. Documented photographs are provided for reference.

**Discussions:**

I was not equipped with an advanced technology to actually produce precise photographs of the pallor of the hands. The subject had different levels of emotional stress during the span of the treatment and to actually correlate the pallor of her digits to her emotional stress was impossible for me to attain.

**Conclusions:**

Even though short-term massage therapy does not obviously decrease the pallor mainly of the phalanges but also including the hands, the patient was confident in saying that massage therapy has a positive effect on improving her stress level. Because it is not within my scope of practice to give an evaluation of emotional stress nor am I equipped with an instrument to do so, I will refer to a visual observations and logs on her diaries made during all ten treatments. It may be that there are subtle improvements not easily determined by visual review. Perhaps longer term treatments would reveal such visible changes. Alternatively, the patient could have formed pre and post symptom severity assessment by a Hematologist. It is important to note that, although Registered Massage Therapists do not firmly assess or treat mood symptoms, patients often report a subjective improvement in mood following a series of massage therapy treatments. In the case of this patient, she reports a moderate level of stress at session No.1 and a low level of stress at session No.10.
Since an increase in stress is a known contributing factor in RP, it follows that the stress this patient experienced as a result of her massage therapy session, helped to decrease her risk for worsening Raynaud’s Phenomenon symptoms. Future studies on this can include pre and post psychometric tests along with symptom severity check lists. This would allow for a more quantitative evaluation of the effects of massage therapy on Raynaud’s Phenomenon.

Photos for the Case study

**Treatment No. 1:**

Pre-Treatment

![Pre-Treatment Image](image1)

Post Treatment:

![Post Treatment Image](image2)
**Treatment No. 4:**

**Pre-treatment**

![Pre-treatment Image]

**Post-treatment**

![Post-treatment Image]
Treatment No. 8:

Pre-treatment

Post-treatment
Treatment no. 10 (using a hand with no Raynaud’s Phenomenon as a form of comparison)

Pre-treatment

Post treatment
References:

http://rheumatology.oxfordjournals.org/cgi/content/full/42/4/601 visited on December 5, 2009 at 1204 hours.
