

## **CERVICAL STIMULATION FOR VOLUMETRIC REDUCTION OF LIMBS IN THE TREATMENT OF LYMPHEDEMA**

Sir,

Godoy and Godoy describe in this study a new lymph drainage technique which is different from those previously described. It can be performed in isolation, as in cases of the face, or in conjunction with body lymph drainage. The technique is extremely simple and, with due care, we believe the method is easily reproduced in the clinical setting.<sup>[1,2]</sup>

Fifteen female and three male patients with ages between 34 and 86 years and a mean age of 57.8 years with grade II lymphedema of lower limbs in its initial phase (within three to four months of onset as reported by the patient) were selected over a two-year period. Grade I lymphedema is defined as lymphedema that evolves during the day with patients having no signs of the disease after a night's

rest. With Grade II lymphedema, the patient awakens with swelling of the limbs.<sup>[3]</sup> Diagnosis of lymphedema was clinical, confirmed by lymphoscintigraphy.

All patients were submitted to twenty-minute daily sessions of cervical stimulation for five consecutive days. Stimulation of the cervical region uses very light movements (almost tickling) of the fingers or thumbs without exerting pressure, as shown in figure 1.<sup>(2)</sup> Approximately 40 to 60 stimuli were employed per minute. The limb was evaluated by volumetry, using the water displacement technique, before and after the treatment program. For statistical analysis, the paired student t-test was utilized with an alpha error of 5% considered acceptable ( $P$ -value < 0.05). The research was approved by the Research Ethics Committee of the Medical School in São Jose do Rio Preto, Brazil and patient consent was acquired.

Statistically significant volumetric reductions were detected for all limbs ( $P$ -value = 0.0003), with an average reduction of 138.6 grams.

The current study demonstrates how this technique of cervical region stimulation reduces

the volume of limbs affected by lymphedema. In our opinion this is the first time that this has been reported, as there are no published studies evaluating this approach. Thus, this is a new concept based on physical stimulation that utilizes light (almost tickling) digital movements.

This finding raises a series of hypotheses to explain the effect of stimulation with the authors suggesting a possible interference in the contractions of lymphangions of the lymphatic system via neurological stimuli and thus adding a probable synergic effect to manual lymph drainage. Lymphangions are located in the space between two valves of the vessels and constitute a contractile unit similar to the heart with their own beats and stimuli.

The findings of this study reinforce this hypothesis; stimulation of determined regions of the body, in this case the cervical region, can trigger responses at a distance, here presumably stimulating contractions of the lymphangions of the lower limbs.

To conclude, the aim of this study was only to prove that stimulation reduces the size of edematous legs and this objective was achieved. Hence we need to attempt to identify the mechanism that causes this effect.

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**Figure 1:** Cervical region stimulation

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