Considering the hypothesis of the pathophysiology of cellulite in its treatment

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Abstract

The aim of this study was to evaluate perimetric reductions in the clinical treatment of cellulite (aesthetics) using the Godoy method in a randomized retrospective clinical trial. The medical records of 150 patients treated for cellulite in the period from 2006 to 2011 in the Clínica Godoy were revisited. Treatment comprised manual and mechanical lymph drainage and cervical stimulation for one hour per day over 10 days. The paired t-test was used for statistical analysis, with an alpha error of 5% (P-value <0.05) being considered acceptable. This study was started after being approved by the Research Ethics Committee of the Medicine School in São José do Rio Preto (FAMERP - no. 395-2010), Brazil and after being registered as a clinical trial.

The mean reduction of the 150 patients was 3.81±2.76 g (P-value <0.0001; 95% confidence interval: 3.408-4.223).

A significant reduction in size was seen with the clinical treatment of cellulite giving an improvement in the physical appearance. Pathophysiological mechanisms such as regional skin lymphostasis seem to be involved in the formation of cellulite.

Results

The mean age of participants was 34.49 years with a minimum age of 18 years and a maximum of 58 years. A significant mean reduction of 3.81±2.76 grams (P-value <0.0001; 95% CI: 3.408-4.223) was detected. Figure 1 shows the perimeters before and after treatment and the mean reduction.

Discussion

The current study used lymph drainage in the treatment of aesthetic cellulite to reduce the perimeter of the leg and thus improve the aesthetic appearance. One-hour sessions of lymph drainage were performed for 10 days over two weeks.

The authors believe that the cause of cellulite is changes in the lymphatic system and the production of substances within the interstitial space with the consequence the regional cutaneous lymphostasis. Thus, the advantage of this approach is that it directly interferes in the pathophysiology of cellulite. The hypothesis of the authors is that stimulation of this system relocates macromolecules in the interstitial space to the circulation. Thus the macromolecules are redistributed around the body. This hypothesis is supported as intensive treatment for four hours per day cause reductions of between 6 to 10 cm in the perimeters of the legs but without changing the body weight. The patients selected for intensive treatment were not obese and did not have lipedema and edema. However, in the clinical practice it is common to see an associa-
tion of obesity, edema, lymphedema and lipedema with cellulite. This fact raises doubts about the pathophysiology of different diseases. Obesity is an aggravating factor for lipedema, lymphedema and even for cellulite.

Patients with lymphedema associated with cellulite who treat the lymphedema using manual lymph drainage, compression therapy and mechanical lymph drainage using the RAGodoy device, in addition to the reduction in lymphedema have improvements in the cellulite. Obese patients who lose weight have reduced perimetric measurements similar to in the treatment of cellulite.

In this study the mean perimetric reduction of cellulite was around 0.2 to 0.3 cm per hour. However, the result is time- and technique-dependent with the evaluations being made after 10 sessions.

The main improvements in our knowledge over the last few years are the hypothesis of the pathophysiology of cellulite, which has since been clinically proven and its genetic association. All diseases have a pathophysiology and treatment should interfere in this physiopathology. The identification of genetic changes suggests that cellulite is a disease, even though it is common to most women.

The therapeutic proposal to stimulate the lymphatic system, based on the assumption of regional cutaneous lymphostasis, is a symptomatic approach as genetic changes have been detected. However, at the moment we believe this approach with clinical principles appropriate. However, comorbidities such as edema and obesity are key to achieving the expected results in the changes that led to regional deposits. One of these associations is idiopathic cyclic edema, a common disease in patients with much edematous cellulite, where control is essential in order to have a good result in the treatment of cellulite.

With this technique the reduction of cellulite is maintained for years (at least five) as long as the body weight is controlled and the individual does not have edema or lipedema. The swelling in patients with idiopathic cyclic edema must be controlled over the long term to prevent relapse.

Conclusions

By interfering in the pathophysiological mechanisms of cellulite such as regional cutaneous lymphostasis, satisfactory clinical results can be achieved in the treatment of cellulite.

References