

Treatment of lymphedema with shockwave therapy: preliminary study

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Introduction and Casuistry

The radial shockwaves are pneumatically generated and emitted at the tip of the applicator and coupled into the human tissue, until to a depth of up to 35mm. The effects on the tissue are : increasing of the metabolic processes, antiphlogistic and vasodilatation and neoangiogenesis with correlate increase of the fluid transport.

We have been treating 35 patients affected by primary or secondary lymphedema of upper and lower limbs.

Admission criteria: age between 20 and 70, complaints lasting more than 1 year with associated localized or diffuse tissural fibrosis. Exclusion criteria: specific therapy over the past 7 days, pregnancy, coagulation disorders, tumour, acute phlogosis.



Foto onde d'urto su spalla (es. Diotallevi?)



Diabetic foot before Treatment

The foot After Treatment

Upper limb secondary lymphedema before and after treatment

Technique

Patients were treated for 4 sessions, 2.500 impulses each. The energy flow density during treatment was equal to a working pressure of 2 bar. About 2,5 cm. Depth on the superficial tissue. Treatment frequency was 4 Hz in multiple shock mode. 5 Treatment (1/week). Never was used local anaesthesia.

RESULTS

Patients were evaluated 2 weeks and 1 month after treatment. They show a medium decreasing of the 32% of the circumference of the limb and a subjective and objective reduction of tissural consistence, above all in corresponding fibrotic areas.

We observed side affects such as local irritation, petechia, haematomas, swelling and low pain 24-36 hours after treatment. Only in 1 patient the suspension of treatment was required. By the high resolution echography we observed a reduction of the skin and suprafascial thickness, corresponding to the clinical observations.

CONCLUSIONS

In conclusion, in our preliminary study, we can assert that the shockwave therapy is very useful in the treatment of primary and secondary lymphedema, not only for the decreasing of the limb volume, but above all for the treatment of the fibrotic areas. The technique is of easy application and can be performed both by the physician as by the physiotherapist. Starting from march 2007, in Italy, this therapy is performed by the National Sanitary Insurance.

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