

PROSPECTIVE STUDY OF THE USE OF LPG TECHNIQUE IN THE TREATMENT OF CUTANEOUS FIBROSIS INDUCED BY RADIOTHERAPY

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INTRODUCTION

Cutaneous fibrosis is the quite mandatory sequela after a breast cancer treated by radiotherapy and it induces functional troubles more or less important. LPG Systems is a Technique of massage which allows the skin mobilization by folding/unfolding. The aim of this study was to evaluate the changes on irradiated skin before and after LPG treatment by clinical and skin replica analysis.

MATERIAL AND METHODS

20 women, 43 to 55 years old, who have been treated from 6 to 16 months before, for a breast cancer with a conservative surgery and radiotherapy, have been enrolled in the trial. They were divided into 2 groups after randomization : the 1st group was LPG treated 3 times a week for 1 month, the second group was only placed under medical supervision. The clinical criteria studied were : pain, pruritus and comfort, skin roughness, erythema, skin softening after treatment. Cutaneous replica were performed with silicone material (Silflo, Flexico Dvpts, UK) before, after and one month later after the end of the treatment. After a rest of 15 min., replica were performed on the internal upper ¼ of each breast. After polymerization the replica was stored and then blindly analyzed by image analysis software.

The following parameters were systematically measured: average skin roughness, average of wrinkles depth and residual length, wrinkles number and space between them.

RESULTS

1. Radiotherapy effect: clinically, a skin dryness exists (20 % of the patients), an erythema (40%), a pain (20%), a pruritus (40%) and a functional discomfort (33%). Replica analysis of the micro relief shows an increase of the global roughness, the wrinkles depth and the residual length associated with an increase of the space between the wrinkles, their number being constant.
2. Massage effect : Clinically, the treatment induces a decrease of erythema (10% of the patients versus 40% before treatment), a decrease of pain and pruritus (10% versus 20 and 40% respectively) and a decrease of the functional discomfort (20% versus 33%). Furthermore, a skin softening sensation is noted by 7 patients versus 1 in the control group. Replica show an increase of roughness and of furrows depth without any change of the residual length and an increase of the space between the wrinkles which number decreases.

DISCUSSION

This study confirms the impact of the clinical sequelae induced on skin after radiotherapy and confirms the improvement of their clinical signs after treatment by LPG Systems.

The changes of the micro relief noted after radiotherapy are different from those observed during skin aging and suggest a breakdown effect of the radiotherapy on the skin relief. A treatment by LPG Technique induces changes of the micro relief suggesting a softening effect of the skin.

Those preliminary results have to be confirmed on a more important group of patients.