

## Ultrasonically Driven Madecassol in Treatment of Hypertrophic Scar

( A Clinical Trial )

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### A Clinical Trial :

**T**HE most careful plastic surgical procedure is from time to time defeated by hypertrophic scar formation (Crikelair 1964). Tense, pruritic, painful and irritable plaques cause acute discomfort to the patient. Radio-therapy along with wide variety of other agents including Vitamin E (Edgerton, Hanrahan and Davis, 1951) and Ultrasonic energy (Kuitert et al, 1955) seem to provide only temporary relief of symptoms. Transmission of corticosteroids, phenylbutazone and Lidocaine through intact skin by ultrasound (Novak, 1970, Mohini 1975, Griffin and Touchstone, 1962) has led us to believe that topically applied Madecassol (Titrated extract of *Centella asiatica*) could be forced into the hypertrophic scars in the same way. The present study aims at evaluating the effectiveness of ultrasonically driven Madecassol and Ultrasonic therapy and Madecassol therapy tried separately in 25 cases each of post burn hypertrophic scars.

### Clinical Material :

Twentyfive cases with at least 3 posts burn hypertrophic scars each formed the clinical material for this trial. All of them had elevated vascular, reddish, tense, pruritic and painful hypertrophic scars mainly in the region of shoulder, neck and upper trunk. Each of the 25 patients received the three types of therapy to the assigned scars forming the various groups. First group of scars were treated with Ultrasonic waves, second group had deep kneading treatments with Madecassol ointment (5 mts. daily for 10 days) while the third group was insonated following local application of Madecassol. The data transcribed from the study is shown in the Tables 1-3.

The Ultrasonic generator used was Cinex Burdick type. Dose given was 1.5 watts/cm<sup>2</sup> for 5 minutes daily for 10 days. Rating scale was read as improved, partially improved or not improved. Patients were labelled improved if pain was absent and there was no itching in the region of hypertrophic scar.

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**Table 1** — *Distribution of cases according to age group*

S. No.	Age in years	Number of patients
1.	10-20 years.	19 (57 hypertrophic scars)
2.	20-30 years.	6 (18 hypertrophic scars)
3.	Above 30 years.	Nil
	Total	(75 hypertrophic scars)

**Table 2** — *Distribution of cases according to Sex*

S. No.	Sex	Number of patients.
1.	Male	7
2.	Female	18
	Total	25

**Table 3** — *Showing comparative results of recovery*

S. No.	Results	Ultrasonically Driven Madecassol	Madecassol alone	Ultra-sonic alone
1.	Improved	80%	32%	20%
2.	Partially improved.	12%	40%	60%
3.	Not improved	8%	28%	20%

The partially improved cases experienced lesser but residual pain and slight itching. The not improved category of hypertrophic scars remained painful, pruritic and tense as before.

**Comments :**

Pain and relief from it is a subjective feeling but the fact that Ultrasound interferes with pain transmission phenomenon by

impairing the conductivity of insonated nerves cannot be denied (Steinbech, 1968).

The results recorded revealed that percentage of improved cases was 82% when combined therapy was used, while Ultrasonic and Madecassol alone gave 20% and 32% improvements respectively. The exact explanation of getting better results with combined therapy cannot be ascertained but it might be due to the fact that Triterpene contained in Madecassol lowers the rate of proline

available for peptide chains, thus inhibiting the production of hydroxyproline and therefore of collagen. (Stetten, 1955; Wolf, Heck & Leak, 1956). In combined therapy Ultrasonic waves may have helped more molecules of Madecassol enter into the cell interior by increasing its permeability.

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