

## Original

## Effect of Heritage Sanjeevi (A Siddha Combination Drug) on Wound Healing in Wistar Rats.

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**Abstract:** In recent times may herbal medications traditionally used for wound healing have been evaluated in a modern manner? "Heritage sanjeevi" a siddha combination drug is claimed to have wound healing properties when applied externally on the wound. The present study was made to evaluate the wound healing effect of "Heritage sanjeevi" on acute wounds created on a group of Wistar rats as compared to a control group. The healing of the wound was found to be more rapid in the test group on many test days during the study; the percentage of wound healing was more rapid in the test group when compared to the control group in a statistically significant manner, as well as the wound healing period.

**Key words:** Wound healing activity, medicated herbal oil, Heritage Sanjeevi.

### INTRODUCTION

Wound healing is the process of repair that follows injury to the skin and other tissues. Following injury of the integument, an inflammatory response occurs and the cells in the dermis begins to increase collagen production. Later the epithelial tissue is regenerated<sup>2,3</sup>. The Indian system of medicine is replete with medicinal plants claiming to promote healing of various types of injuries. Different plants are traditionally used in Ayurveda and Siddha system for treatment of diverse ailments, there has been a phenomenal rise in the interest of the scientific community to explore the pharmacological actions or to confirm the veracity of claims made about various herbs in the tradition of Ayurveda and Siddha. Use of traditional medicines is wide spread through out the world and great interest exists in its practices and beliefs that were in existence often for hundreds of years, long before the development and spread of modern scientific medicines, most of these practices are still in use today. The present study has been designed to evaluate combination drug "Heritage Sanjeevi" a Siddha for its wound healing properties in Wistar rats.

### MATERIAL AND METHODS

"Heritage sanjeevi" is a medication made up of Curcuma Aromatica, Psoralea Corylifolia, Vernonia Anthemintica Wild, Hydnocarpus Laurifolia, Elettaria Cadamomum, Coconut Milk, Mercury, Sulphur, Hydrogyrum Suchloride Calomel, "Sulphie" of lead, Copper Sulphate, Zinc Sulphate and Camphor. The mixtures of these compounds were processed in the manner that all the inorganic material are detoxified using an ancient detoxin called "Pooneer". The extracted oil is carefully filtered and stored in glassware. The drug is used for external application only and its shelf life is six years and it has been claimed to have excellent healing property against burns, scalds, chemical burns, acid burns, radiation burns. Healthy Wistar rats of either sex weighing between 150-200g were used for this study. They were fed with commercial pellet rat chow (M/S Hindustan Lever Ltd.) and water was given ad libitum. This study has been cleared by the Institutional Animal Ethics Committee (IAEC). Animals were divided into two groups of six animals each in ratio 1:1 male to female; group I (controls): Wound was created and saline was applied daily till the wound completely healed: Group II: served as a test group and wound was created in them and medicated oil (Heritage Sanjeevi) was applied once daily externally till the wound healed completely. The chosen animals were prepared

in the following manner, animals were shaved on the dorsolateral trunk and a 1.5 Cm diameter circular wound was made on the dorsolateral aspect of their trunk up to the depth of panniculus carnosus with a punch. The wound creating procedure was carried out using diethyl ether general anesthesia. The wound size was outlined on a translucent 'butter' paper dialy till the wound was completely healed; the area of the wound on each day was determined by using the tracing of the wound on a graph sheet (1mm<sup>2</sup>). Changes in the daily wound area were noted and the rate of wound healing was determined.

#### Statistical Analysis

Student t test was performed between the groups. P values < 0.05 were considered as statistically significant.

### RESULTS

The initial area of the wound in control as well as test group was 245 ± 34 and 251 ± 27 mm<sup>2</sup> respectively (p > 0.05). Till the 5<sup>th</sup> day after the wound was made, on comparing the control and the test group, there was greater reduction in wound in the test group. But this reduction was not statistically significant. From the 6<sup>th</sup> day onwards the wound area showed statistically significant reduction in the test group compared to the control group (p < 0.05) except on the 8<sup>th</sup>, 10<sup>th</sup> and 14<sup>th</sup> day (Table). The wound healing period in heritage sanjeevi, test group was significantly lower when compared to the saline control and test group was done in the graphical manner to evaluate linear correlation "r<sup>2</sup>", in the control group it was 0.956 and in the test group it was 0.92 and the same was not statistically significant. (Figure).

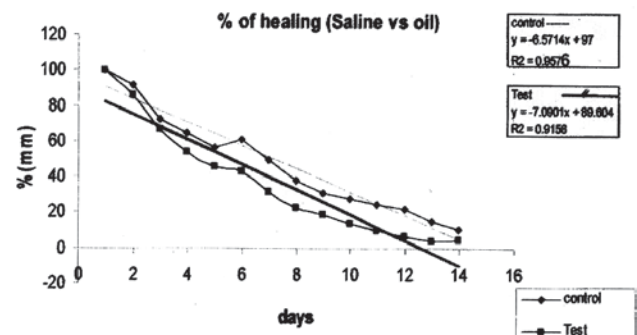


Figure: Percentage of wound healing compared between the groups.

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**Table:** Assessment of area of the wound on consecutive days in Test and Control groups

Day	Group (Control) Mean $\pm$ SD mm <sup>2</sup>	Group II (Test Group) Mean $\pm$ SD mm <sup>2</sup>	P Value	Significant
1	245 $\pm$ 34	251 $\pm$ 27	0.37	NS
2	225 $\pm$ 30	215 $\pm$ 44	0.32	NS
3	179 $\pm$ 35	168 $\pm$ 22	0.26	NS
4	159 $\pm$ 16	136 $\pm$ 27	0.557	NS
5	140 $\pm$ 17	115 $\pm$ 32	0.07	NS
6	151 $\pm$ 38	109 $\pm$ 37	0.04	S
7	123 $\pm$ 42	80 $\pm$ 18	0.02	S
8	91 $\pm$ 36	58 $\pm$ 35	0.06	NS
9	77 $\pm$ 39	38 $\pm$ 30	0.04	S
10	67 $\pm$ 36	24 $\pm$ 36	0.03	S
11	61 $\pm$ 33	24 $\pm$ 26	0.03	S
12	54 $\pm$ 32	16 $\pm$ 19	0.02	S
13	36 $\pm$ 26	10 $\pm$ 15	0.03	S
14	28 $\pm$ 25	12 $\pm$ 19	0.12	NS

S- significant, NS- not significant,  $p > 0.05$  considered as significant

## DISCUSSION

The mean value of the area of wound in test group is low when compared to the control group from 6th day onwards. The slope marginal difference between control and test. However there was

no statistical significance between the groups. In the test groups on the 13th day, out of 6 animals 4 animals showed complete healing, in the control group only one animal showed complete healing, one animal had partial healing and remaining did not show complete healing. Heritage Sanjeevi, a Siddha combination drug has potential to heal the wound earlier when compared to the saline group. An agent present in the medication may be stimulating collagen production and this may be promotion wound healing since collagen is the principle component of any repaired tissue and this is a point of further studies.

## CONCLUSION

The claim that traditional siddha combination drug "Heritage sanjeevi" has an excellent wound healing property has been problem in this study; the mechanism of its effect, however, needs further evaluation.

## ACKNOWLEDGEMENT

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## RECOMMENDED READING

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