

A Comparative Study of Durvadi Taila and Povidone Iodine in the management of Vrana

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ABSTRACT : Vrana is one of the problems which have been managed by human being from beginning of civilization. The science of "Vrana Ropana" seems to be a serious matter of concern to the ancient healers. This fact can be very well understood while going through the surgical text - Sushruta Samhita where a good number of chapters deal with the science of Vrana alone. Vrana literally means a discontinuation of tissues. It is seen as debilitating and scaring disorder usually seen affecting the human being at any age. There are so many factors responsible to make healing process delayed. Though a variety of chemical substances have been evaluated and patented as wound healing agents, their inability to become successful drugs is due to the fact that these are able to act only at a particular step of the healing cascade. It is likely that more effective wound healing agent would be developed from natural products. The same thing is also being tried by Ayurvedic experts; present work is also a further step in this path under an herbal preparation named "Durvadi Taila", which is mentioned in Chakradatta and Bhaishajya Ratnavali in Vranashotha Roga Adhikara for the treatment of Vrana. In this research study total 34 patients were registered and treated in two groups, group A is Durvadi Taila treated group and Group B is Povidone iodine group as a standard control group. Encouraging results were observed in Durvadi Taila followed by Povidone Iodine. Study emerges that Durvadi Taila possess better wound healing properties.

Key words : Vrana, Durvadi Taila, Povidone Iodine, Wound healing.

INTRODUCTION

Vrana (Wound) is probably one of the first medical problems faced by human being from antiquity. Wound and the healing process are also most common events which are known since the beginning of the life. In this modern era there is a remarkable increase in the number of traumatic cases due to rise in mechanized vehicular traffic, explosive population, and rapid industrialization. Surgeons are always expected to treat efficiently the wounds either previously or created by themselves. For carrying out such a responsibility through knowledge on different types of wounds, the process of wound healing and factors that influence the rate of healing would have more importance.¹

There is a vast description available in Indian classics, similarly to the western site. The descriptions of wounds show separate entity from the time of Hippocrates. Acharya Sushruta - The father of surgery has scientifically classified it in a systemic manner whose wealth of clinical material and the principles of management are valid even today. classification of traumatic wounds, Shuddha Vrana, Nadi Vrana, Sadhya Vrana, Dagdha Vrana etc., their prognostic evaluation and management in the form of sixty Upakramas which are from Apatarpana to Rakshavidhana, insistence on

primary suturing in clean wounds, avoidance of sepsis and excision of extruded omentum and careful suturing of intestinal perforation in the management of perforating abdominal wounds, etc. are remarkable for their modern outlook.²

The management for this problem has been varying from age to age, now with the help of new advance techniques and methods of microscopic and experimental studies the confirm patho-physiology of this subject is more appreciated.

Though, wound healing is a physiological process which starts immediately after injury and normally does not require much help, but it is more prone to infections and situations like diabetes mellitus, burns, created problems which delay the repair process. There are so many other local and systemic factors responsible to make healing process delayed. They are dead tissues, insufficient blood supply, protein deficiency, mechanical injury, ionizing radiation, low oxygen tension, foreign bodies etc.

Healing of wounds, whether internal of external, involves a series of overlapping events viz. inflammation, cell migration, angiogenesis, matrix synthesis, collagen deposition and reepitheliazation³. Since this complex process involves interaction between several cell types, cytokines, adhesion molecules, growth factors and extracellular matrix proteins etc., it is difficult to develop ideal wound healing agents.

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The drugs mainly suppress the obstacles and normalize the healing process. Keeping all in mind to search of an effective treatment with higher acceptability the present clinical study was carried out with 'Durvadi Taila' and 'Povidone Iodine' in the management of Vrana. The recipe Durvadi Taila mentioned in Vranashotha Rogadhikara chapter of Chakradatta,⁴ is selected for local application to study its effect on the healing process of wound.

Aims and Objectives :

- 1) To decide both local as well as systemic etiological factors responsible for the non-healing of the wound.
- 2) To assess the efficacy of Durvadi Taila in the management of Vrana.
- 3) To compare the effect of trial drug Durvadi Taila with Povidone Iodine.

MATERIAL & METHODS

1. Patients with classical signs and symptoms of Vrana were selected for the study.
2. Diagnosis was made on the basis of special research proforma.
3. Routine investigations like Haemogram, BSL, Urine and stool were carried out.

Ethical clearance - The study was cleared by the ethical committee of the Institute. Written consent was taken from each patient willing to participate before the start of the study. Patients were free to withdraw their name from the study at any time without giving any reason.

Selection of the patients :

Patients with the complaint of wounds like abrasion, haematoma, bruise injury, contusion, fissure in ano, stab wounds, incised wounds, laceration, abscess, cyst etc. were included whereas patients suffering from tubercular wound, leprotic wound, malignant wound, diabetic wound, burns, wounds having excessive loss of tissues, fistula in ano etc. were excluded.

Drug Schedule and Grouping :

All the selected patients were randomly classified in 2 groups viz. A, and B. Following drug schedule was made as group A - Test drug, group B- standard control drug.

Group	A	B
Drug	Durvadi Taila	Povidone Iodine
Form	Taila	Solution
Dose	5-10 ml	5-10 ml
Route of Administration	Local application	Local application
Duration	4 weeks	4 weeks

Criteria of Assessment :

Most of the signs and symptoms of Vrana described in Ayurveda for statistical analysis scoring system has been adopted. Statistical analysis and percentage of relief (before and after treatment) was taken to know the efficacy of the trial drugs. Score 1 to 4 was given according to severity of symptoms.

Criteria for total effect of Therapy :

The assessment was done on the basis of change in the signs and symptoms of Vrana.

Cured : 100% Relief in the signs and symptoms along with complete healing of wound.

Marked Improvement : 76 to 99% relief in signs and symptoms along with healing of wound.

Moderate Improvement : 51-75% relief in signs and symptoms along with healing of wound.

Mild Improvement : 26-50% relief in signs and symptoms along with healing of wound.

No Improvement : Upto 25% relief in signs and symptoms without healing of wound.

TABLE NO. 1 : OVERALL EFFECT OF THERAPIES ON 31 PATIENTS OF VRANA :

Overall Effect	Durvadi Taila Group		Povidone Iodine Group	
	Pts.	%	Pts.	%
Cured	5	31.25	4	26.67
Marked Improvement	5	31.25	3	20.00
Moderate Improvement	3	18.75	4	26.67
Mild Improvement	2	12.50	2	13.33
Unchanged	1	06.25	2	13.33

General Observations :

Among the 34 patients studied in both series, males were more than females (73.53%) may be due to external exposure and nature of work. Maximum number of the patients were observed in 21-30 year age group (35.31%) followed by (20.59%) in 30-40 year of age group. This factor may be due to mainly earning occupational age and external exposure. Majority of the patients were labourer by occupation (26.50%) and hence the wounds were found more than any other occupation group. In this study maximum patients were educated upto secondary level (32.35%). However there is no direct relation with existing complaint of wound. Maximum number of the patients were Hindus (73.53%) and married (58.82%). Though there is no direct relation of religion with wound but the area where study has been carried out is dominated by Hindus. Majority of the patients were from middle class (70.59%).

Maximum patients were found with complaint of wound from 0-7 days duration (41.18%), sudden onset (58.82%) and Agantuja Vrana (55.88%) due to physical trauma (73.52%). In this study majority of the wound were containing sloping edges (97.05%), pink colored and granulation tissue base (58.82%). No patient was found with fracture and family history in this study. Maximum wounds were found on upper limb (32.35%). Maximum patients were found with wounds containing moderate (44.12%) and serosanguineous discharge (26.47%).

Maximum patients were found with regular bowel history (55.88%), regular micturition (91.17%), smoking (44.11%) and tea as supplementary diet (58.82%). Maximum number of the wounds was stab wound (26.47%) and round shaped (50%) and healed by second intention (52.94%).

Maximum no. of the patients were having Pitta Kapha Prakriti (41.18%) Madhyam Abhyavrana Shakti (44.11%), Madhyam Jarana Shakti (38.23%), Madhyam Vyayam Shakti (52.94%) and Vishamagni (50%)

Effect of Therapy :

In this research study, total 34 patients were registered and treated in two groups, among them 18 patients in Durvadi Taila group and 16 patients in Povidone iodine group. Both the groups have shown highly significant result on all clinical symptomatology of wound, because trial drug and standard drugs promoted the natural healing process and checked the disease "Vrana".

The result of Durvadi Taila shows that the size was decreased by 74.19%. In Povidone Iodine group the size was decreased by 61.29%, which was statistically

highly significant in both groups. Pain was reduced by 88.46% in Durvadi Taila group while in Povidone Iodine group it was reduced by 76%. Both were statistically highly significant. The surface was improved by 75%, whereas in Povidone iodine group relief was 62.50% while it was highly significant in both groups. In Durvadi Taila group floor was relieved upto 75% improvement and in Povidone Iodine group upto 52.94%. They were statistically highly significant in both groups.

The tenderness was reduced by 68.75% and 62.50% in both groups respectively. It was observed statistically highly significant in both groups. The burning sensation was reduced by 75% in Durvadi Taila group and it was statistically highly significant, while in Povidone Iodine group it was reduced by 71.42% and statistically significant. The itching in to the wound area was relieved by 91.67% in Durvadi Taila group which was statistically highly significant, and 83.33% in Povidone Iodine group which was observed significant statistically.

The discoloration was reduced by 71.62% in Durvadi Taila group while in Povidone iodine group; it was reduced (66.67%) and statistically significant in both groups. The pus discharge was reduced (90%) and in Povidone Iodine group it was relieved (81.25%) which was highly significant statistically in both groups. Bleeding was observed totally cured in Durvadi Taila group while statistically it was highly significant, where as (75%) relief was observed in Povidone Iodine group and it was insignificant statistically.

The smell was observed equally relieved in both groups 66.67% while it was insignificant statistically in both groups. Swelling was reduced upto 75% in Durvadi Taila treated group which was statistically significant while in Povidone iodine group it was reduce upto 61.67% and observed significant.

It was noticed that, maximum 31.25% were cured in Durvadi Taila group while 26.67% were in Povidone Iodine group. Markedly improved cases were observed 31.25% in treated group i.e. Durvadi Taila group whereas 20% were observed in Povidone Iodine group. In 18.75% were moderately improved in Durvadi Taila group while 26.67% were observed in Povidone Iodine group. The 12.50% were mild improved, whereas 6.25% remain unchanged in Durvadi Taila group where as in Povidone Iodine group they were 13.33% respectively.

DISCUSSION

There are so many factors responsible to make healing process delayed like dead tissues, insufficient blood supply, protein deficiency, the diseases like diabetes mellitus, tuberculosis etc. Durva is having Kashaya and

Madhura Rasa as well as Madhura Vipaka⁵. Therefore it provides nourishment to skin and all dhatus. It possesses Vrana Ropana and Vishaghna properties⁶ also; therefore it helps to remove microbes and cleans the wound. It has the properties of Daha prashamana, hence it creates cool effect in burning sensation and checks it. It is Stambhana and Raktashodhaka also therefore it checks bleeding and discharge from wounds and shows haemostatic action very well. Kampillaka is well known antihelminthic, antifungal, antiviral and vermifuge⁶. It is reported as Vrana Shodhaka and Vrana Ropaka as well as Krimighna. Due to these properties it checks bacteria, fungus from the wounds and helps it for proper healing.

Daruharidra is having Tikta, Kashaya Rasa and Ushna Virya⁵. It has been proved that Daruharidra has Shothahara, Raktashodhaka and Raktastambhana properties⁶. Hence it reduces inflammation and makes blood free from various microbes. Due to Vedana Sthapana property, it provides better relief in pain and tenderness. It is Varnya, so it provides a natural colour to scars. Maximum number of the patients was smokers (44.11%). Maximum number of the wounds was stab wound (26.47%), round shaped (50%) and healed by second intention (52.94%). Durvadi Taila provided better relief in bleeding (100%), pus discharge (90%), and pain (88.46%) may be due to Raktastambhaka property of Durva, vranashodhana property of kampillaka, vedanasthapana property of Daruharidra and vranashodhana with Vatahara properties of Tila taila. Povidone iodine provided better relief in itching (83.33%) and pus discharge (81.25%). Overall effect of therapy reveals that cured and markedly improved were observed 31.25% each in treated group i.e. Durvadi Taila group

followed by 18.75% were moderately improved, 12.50% were mild improved and 6.25% remain unchanged. In standard control group i.e. Povidone iodine group, 26.67% each got cured and moderately improved were observed followed by 20% patients were markedly improved, 13.33% were mild improved and unchanged respectively

CONCLUSION

On the basis of clinical observations it can be concluded that the trial drug Durvadi Taila possess analgesic, anti inflammatory and anti bacterial properties. There is no unwanted effect found during the course of treatment. It is found better in the management of wounds due to its effectiveness and low cost. The present research work was aimed to find out the effective therapy for Vrana with the help of Ayurvedic and modern procedures. Though, the results are very good, but further study on large numbers of patients with long duration is expected to be arrive a definite conclusion.

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हिन्दी सारांश

व्रण की चिकित्सा में दुर्वादि तैल एवं पोटिडोन आयोडिन का तुलनात्मक अध्ययन

ललित पांखाणिया, पी. पी. शर्मा एवं मंजूषा राजगोपाल

मानव जात के जन्म से ही व्रण एक अति महत्वपूर्ण प्रश्न रहा है। मनुष्य को कई तरह के भौतिक व रासायनिक चीजों एवं प्राणियों से व्रण होते रहते हैं। आधुनिक युग में बढ़ता हुआ वाहन व्यवहार एवं औद्योगिक जीवन में यह सामान्य है। मानव को किसी भी वय में होने वाला यह रोग कभी कभी स्थायी नुकसान करता है। वैदिक काल से आज तक के सभी आचार्यों ने इसका वर्णन किया है। आचार्य सुश्रुत ने अपनी संहिता में इसका विस्तार से परिचय और चिकित्सा का वर्णन दिया है। चूंकि कई तरह के द्रव्यों की खोज व्रण चिकित्सार्थ हुई है फिर भी वे कुछ हद तक उपयोगी हैं। आयुर्वेद में वर्णित कई द्रव्यों का परीक्षण आवश्यक है। यह अध्ययन व्रण के ३४ रुग्णों पर किया गया है। वर्ग 'क' में दुर्वादि तैल एवं वर्ग 'ख' में पोटिडोन आयोडिन का स्थानिक प्रयोग किया गया है। अध्ययन में रुग्णों के पंजीकरण के पश्चात् व्रण के मुख्य लक्षणों जैसे रुजा, रक्त स्राव, पूय स्राव, इत्यादि का चिकित्सा पूर्व एवं चिकित्सा पश्चात् अध्ययन किया गया है। कुल पंजीकृत रुग्णों में से ३१ रुग्णों द्वारा चिकित्सा अवधि पूर्ण किया गया। अपेक्षाकृत वर्ग 'क' में लक्षणों व चिह्नों में अधिक लाभ पाया गया।

