A Clinical Study on combined effect of Nimbapatrādi Varti Avachūrṇana and Jalaukāvacharaṇa in Duṣṭa Vraṇa w.s.r to Varicose Ulcer

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Abstract

Background:
Vraṇa is a very common problem encountered by medical practitioners. Healing of Vraṇa is a natural process, but due to interference of vitiated dōṣas, Vraṇa becomes duṣṭa and normal healing is delayed. Duṣṭa Vraṇa, being a chronic ailment causes long-term suffering and needs some effective treatment. A venous ulcer is most common in lower extremities, accounting for 60-80% of all cases. Among them 50% are varicose ulcers. On an average 33-60% of these ulcers persists for more than 6 weeks and are therefore referred to as chronic ulcers. To achieve good approximation, early healing and acceptable scar without complications Sushrutha has explained 60 types of procedure. Among these 60 procedures, Avachūrṇana and Rak-tamoksana is also mentioned. An attempt is made in the present study with Nimbapatrādi varti Avachūrṇana in combination with Jalaukāvacharaṇa in Śōdhana and Rōpaṇa of Duṣṭa Vraṇa with special reference to Varicose Ulcer.

Objectives: To evaluate the combined effect of Nimbapatrādi varti Avachūrṇana and Jalaukāvacharaṇa in Duṣṭa Vraṇa w.s.r. to varicose ulcer.

Methods: 20 patients with confirmed clinical diagnosis of Duṣṭa Vraṇa/Varicose ulcer were selected randomly.

Results: The study shows statistically significant effect on Vedana, kaṇḍū, Akruthi and Srāva of Vraṇa.

Keywords: Duṣṭa Vraṇa, Varicose Ulcer, Nimbapatrādi varti, Jalaukāvacharaṇa

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INTRODUCTION

An ulcer which has discoloration, pus discharge, foul smell, painful, burning sensation, itching and which refuses to heal or heals very slowly in spite of best efforts is known as Duṣṭa Vraṇa. Advancement in science, technology and antibiotics has improved a lot in wound healing but still understanding its pathology and management of non-healing ulcer in shorter duration is still in the phase of evolution.

Ayurveda the age old and holistic system of medicine offers various tools for management of Duṣṭa Vraṇa. Acharya Sushruta, pioneer surgeon who have mentioned various types of wound and their management. The conditions have changed over the period of time along with advanced technologies but the basic principles remain same. The concepts and principles of Vraṇa such as causes, classification, examination, treatment, bandaging, complications etc told by Acharya Sushruta remain unchanged in this 21st century also.

A venous ulcer is most common in lower extremities, accounting for 60-80% of all cases. Among them 50% are varicose ulcers. In total 35% of population suffer from varicose veins and 2% have skin changes that may precede varicose ulceration. It is estimated that 1.5-2% of world population suffer from venous ulcer of leg and over the age of 65 years the prevalence increases to 4%. On an average 33-60% of these ulcers persists for more than 6 weeks and are therefore referred to as chronic ulcers. Ulcer healing is a natural process. There are so many factors responsible to make wound healing process delayed. They are dead tissues, insufficient blood supply, protein deficiency, the diseases like varicose veins, diabetes mellitus, tuberculosis etc. In case of delayed healing, it is more likely to be local than general, which clarifies the magnitude of the problem of study.

A clean wound in normal body heals earlier with minimum scar as compared to contaminated wound. Therefore, the prime importance is given to the local / topical applications to keep the ulcer clean & provide the optimal “moist” environment.

In the present context all efforts are directed to keep the wound clean during various stages of its healing. To achieve good approximation, early healing and acceptable scar without complications Sushruta has explained 60 modalities of treatment. Among these 60 procedures, Avachūrana and Raktamoksana is also mentioned.

To know the efficacy and to achieve early and uncomplicated wound healing in a shorter duration, an attempt was made in the present study with Nimbapatrādi varti Avachūrana in combination with Jalaukāvacharana in Šōdhana and Rōpana of Duṣṭa Vraṇa with special reference to Varicose Ulcer.

Materials:

Source of Data: Patients of varicose ulcer having the classical features of Duṣṭa Vraṇa coming under the inclusion criteria approaching the OPD and IPD of Shalya Tantra Department, of SJIM Hospital, Bengaluru was selected for the study.

Method of collection of data:

Patients presenting with features of varicose ulcer mentioned in following criteria will be included for study.

A. Inclusion criteria

- Patients with varicose ulcer having the features of Duṣṭa Vraṇa such as pain, itching, discoloration, discharge, situated in lower limb.
- Duration of ulcer: more than 2 months
- Solitary ulcer with Ulcer size- within 5cms x 5cms.

B. Exclusion criteria

Patients with following disorders

- DVT
- Thrombophlebitis
- Malignancy
- Diabetes mellitus
- Arterial ulcers
- Bleeding disorders
- Other systemic disorders

Complete history of each patient was taken according to case proforma. The patient was examined completely on Ayurveda and Modern concept of examination and essential investigations were performed to diagnose and assess the Duṣṭa Vraṇa. The selected patients were treated for 28 days.

Investigations

- Haemoglobin (g/dl)
- Total Count (WBC)
- RBC
- CT & BT
- Platelets
- Erythrocyte sedimentation rate
- Random blood sugar

Research Design:

Method: Jalaukāvacharana every 7th day & Nimbapatrādi varti Avachūrana daily for 28 days
Drug Study:
1. Jalaukāvacharaṇa is claimed to be the parama-sukumāra Chikitsa. It is safely indicated for the king, rich, old, fearful, weak, women and the people of tender nature because of its safety and high efficacy in the disorders involving the vitiation of blood.\\[4\\]<ref>
2. Nimbapatrādi varti - the name is based on the name of the first drug used for its preparation.

विनिम्यक्त गृह्व क्षत्रदवी मधुकसंयुता
वतिस्तिलानां कल्को वायोधय्योपपेद्व व्रणानः\\[iii,iv\\]<ref>

Composition: It is a compound of six drugs as described in the classics.
1. Nimba Patra
2. Daruharidra
3. Madhuyasti
4. Honey
5. Ghee
6. Tila

Nimbapatrādi varti is prepared as per Varti kalpana vidhi<ref> in Department of Shalya Tantra, Government Ayurvedic Medical College, Bangalore.

Methodology:
1. Jalaukāvacharaṇa
Pūrvakarma
- The procedure was explained and consent was taken in writing.
- For approximately 10 min, leeches were placed in a kidney tray containing Haridra jala. It was then transferred to a kidney tray containing plain water. After it regained the natural vivacity and freshness, it was taken for application.
- Patient was made to sit on examination table comfortably with extended leg with back rest. Part intended for Jalauka application is cleaned and wiped.

Pradhāna karma:
- The Jalaukas which were subjected to pūrva karma were gently lifted from the container.
- The mouth of the Jalauka was brought in contact with the adjacent part of the ulcer site.
- The biting & sucking of blood by the Jalauka was confirmed by the posture i.e., at the neck the leech resembled a horse shoe shape, raised & arched. In cases where the Jalauka did not bite, the area adjacent to affected part was pricked at a spot with a sterile needle to bring about oozing of a drop of blood, following which the Jalauka was brought into contact with the blood thus facilitating biting.
  - It was then covered with sterile gauze dipped in plain water which was moistened at intervals till the end of the procedure.
  - The procedure was continued till the Jalauka dropped off by itself or removed by applying Saindhava lavana to the mouth of the Jalauka in case where Jalauka did not drop off by itself after 45 min or when the patient complained of discomfort such as dāha, toda, bhrama etc.

Paśchāt karma:
- Management of the patient: The spot of bite was wiped thoroughly clearing the secretion & blood from the area. The area was smeared with Haridra and sterile absorbent pressure dressing was applied. The patient was observed for soakage of the dressing with blood & in such cases they were suitably dealt with.
- Management of the Jalauka – The Jalauka which dropped off / those removed were subjected to vaṇana karma. The mouth of the Jalauka was smeared with Haridra repeatedly with simultaneous gentle massage of the Jalauka from the tail towards the mouth so as to expel the sucked blood. After confirming the complete expulsion of the blood, it was put into Haridra water for 5 minutes to cleanse and activate it. Once the Jalauka begins to actively move around it is transferred in to clean water and then into the container which is appropriately closed and labeled with the name of the patient and the date of last application.
- The procedure was repeated after 7 days for a total of 28 days. It was followed by Avachūrana or dusting of Nimbapatrādi varti over ulcer.

2. Nimbapatrādi varti Āvachūrana:
- The ulcers of patients of this group were first cleaned with normal saline.
- Nimbapatrādi varti was dusted (Avachūrana) on the ulcer and gauze sprinkled with the same powder was kept on wound
- Over it a sterile pad was placed & bandaging of wound is done.
This was done daily for 28 days.
Measurement of the Vrana:
Assessment of Ulcer was measured on 0th day, 7th day, 14th day, 21st day and 28th day.

<table>
<thead>
<tr>
<th>Vedana</th>
<th>Kaṇḍū</th>
<th>Akruthi - Size of Ulcer</th>
<th>Srāva - Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - No Pain</td>
<td>0 - No Itching</td>
<td>0 - No ulceration</td>
<td>0 - No Discharge</td>
</tr>
<tr>
<td>1 - Pain doesn’t disturb routine activities</td>
<td>1 - Occasionally tolerable itching</td>
<td>1 - 2cms X 3cms</td>
<td>1 - Serous Discharge</td>
</tr>
<tr>
<td>2 - Pain disturb routine activities</td>
<td>2 - Occasionally intolerable itching</td>
<td>2 - 3cms X 4cms</td>
<td>2 - Sero-sanguineous Discharge</td>
</tr>
<tr>
<td>3 - Intolerable Pain</td>
<td>3 - Continuous intolerable itching</td>
<td>3 - 4cms X 5cms</td>
<td>3 - Copious Sero-purulent Discharge</td>
</tr>
</tbody>
</table>

**RESULTS**

**Effect on Vedana**

<table>
<thead>
<tr>
<th>Vedana</th>
<th>N</th>
<th>Mean score</th>
<th>% of reduction</th>
<th>S.D of mean Diff</th>
<th>S.E of mean Diff</th>
<th>'t' Value</th>
<th>'p' Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B.T.</td>
<td>A.T.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 0</td>
<td>20</td>
<td>1.55</td>
<td>1.55</td>
<td>00</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>NS</td>
</tr>
<tr>
<td>Day 7</td>
<td>20</td>
<td>1.55</td>
<td>0.45</td>
<td>70.96</td>
<td>0.503</td>
<td>0.112</td>
<td>5.335</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Day 14</td>
<td>20</td>
<td>1.55</td>
<td>0.45</td>
<td>70.96</td>
<td>0.553</td>
<td>0.124</td>
<td>8.899</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Day 21</td>
<td>20</td>
<td>1.55</td>
<td>0.1</td>
<td>93.54</td>
<td>0.604</td>
<td>0.135</td>
<td>10.716</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Day 28</td>
<td>20</td>
<td>1.55</td>
<td>0.05</td>
<td>96.77</td>
<td>0.513</td>
<td>0.11</td>
<td>13.071</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

The mean score of the Vedana before the treatment was 1.55, which reduced to 0.05 showing 96.77% of improvement after 28 days of treatment, and was statistically highly significant at the level of P< 0.01.

**Effect on Kaṇḍū:**

<table>
<thead>
<tr>
<th>Kaṇḍū</th>
<th>N</th>
<th>Mean score</th>
<th>% of reduction</th>
<th>S.D of mean Diff</th>
<th>S.E of mean Diff</th>
<th>'t' Value</th>
<th>'p' Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BT</td>
<td>AT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 0</td>
<td>20</td>
<td>1.1</td>
<td>1.1</td>
<td>00</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>NS</td>
</tr>
<tr>
<td>Day 7</td>
<td>20</td>
<td>1.1</td>
<td>0.15</td>
<td>86.36</td>
<td>0.826</td>
<td>0.185</td>
<td>5.144</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Day 14</td>
<td>20</td>
<td>1.1</td>
<td>0.05</td>
<td>95.45</td>
<td>0.759</td>
<td>0.169</td>
<td>6.183</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Day 21</td>
<td>20</td>
<td>1.1</td>
<td>0</td>
<td>100</td>
<td>0.788</td>
<td>0.176</td>
<td>6.239</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Day 28</td>
<td>20</td>
<td>1.1</td>
<td>0</td>
<td>100</td>
<td>0.788</td>
<td>0.176</td>
<td>6.239</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

The mean score of the Kaṇḍū before the treatment was 1.1, which reduced to 0 showing 100% of improvement after 28 days of treatment, and was statistically highly significant at the level of P< 0.01.
Effect on Akruthi:

<table>
<thead>
<tr>
<th>Akruthi</th>
<th>N</th>
<th>Mean score</th>
<th>% of reduction</th>
<th>S.D of mean Diff</th>
<th>S.E of mean Diff</th>
<th>'t' Value</th>
<th>'p' Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 0</td>
<td>20</td>
<td>2.2</td>
<td>31.81</td>
<td>0.0</td>
<td>0.0</td>
<td>0.686</td>
<td>0.00</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Day 7</td>
<td>20</td>
<td>2.2</td>
<td>45.45</td>
<td>0.470</td>
<td>0.105</td>
<td>6.655</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>Day 14</td>
<td>20</td>
<td>2.2</td>
<td>79.55</td>
<td>0.459</td>
<td>0.103</td>
<td>9.745</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>Day 21</td>
<td>20</td>
<td>2.2</td>
<td>93.18</td>
<td>0.639</td>
<td>0.143</td>
<td>12.248</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>Day 28</td>
<td>20</td>
<td>2.2</td>
<td>93.18</td>
<td>0.686</td>
<td>0.154</td>
<td>13.351</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
</tbody>
</table>

The mean score of the Akruthi before the treatment was 2.2, which reduced to 0.15 showing 93.18% of improvement after 28 days of treatment, and was statistically highly significant at the level of P< 0.01.

Effect on Srāva:

<table>
<thead>
<tr>
<th>Srāva</th>
<th>N</th>
<th>Mean score</th>
<th>% of reduction</th>
<th>S.D of mean Diff</th>
<th>S.E of mean Diff</th>
<th>'t' Value</th>
<th>'p' Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 0</td>
<td>20</td>
<td>0.7</td>
<td>0.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>NS</td>
</tr>
<tr>
<td>Day 7</td>
<td>20</td>
<td>0.7</td>
<td>25</td>
<td>0.50</td>
<td>0.114</td>
<td>3.941</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>Day 14</td>
<td>20</td>
<td>0.7</td>
<td>0</td>
<td>100</td>
<td>0.470</td>
<td>0.105</td>
<td>6.655</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Day 21</td>
<td>20</td>
<td>0.7</td>
<td>0</td>
<td>100</td>
<td>0.470</td>
<td>0.105</td>
<td>6.655</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Day 28</td>
<td>20</td>
<td>0.7</td>
<td>0</td>
<td>100</td>
<td>0.470</td>
<td>0.105</td>
<td>6.655</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

The mean score of the Srāva before the treatment was 0.7, which reduced to 0 showing 100% of improvement after 28 days of treatment, and was statistically highly significant at the level of P< 0.01.

**DISCUSSION & CONCLUSION**

a) Jalaukāvacharaṇa

- It is claimed to be the paraṁa-sukumāra Chikitsa. It is safely indicated for the old age, sukumāra, women and fearful persons because of its safety and high efficacy in the disorders involving the vitiation of pitta and rakta.
- All the dōsās are involved in pathogenesis of Vraṇa. Jalaukāvacharaṇa is indicated in Pitta and Rakta Dōsā vikāras.
- Pre-existing varicose veins → increases venous tension → RBC diffuses into tissue planes and gets lysed there → it releases haemosiderin → leading to Capillary endothelial damage → prevents diffusion and exchange of nutrients which leads to anoxia in ulcers. Hence is used effectively in the management of non-healing ulcer as it helps to improve the local blood circulation and promotes healing. It relieves vascular congestion.

b) Avachūrana is dusting the medicine over the ulcer site in the uniform pattern. By this there is easy absorption of medicines and would enhance healing.

- In the Vraṇa Sōtha Adhyaya of Chakradatta, there is a reference of Nimbapatrādi varti which has Vraṇa Śōdhana and Vraṇa Rōpaṇa properties.
  - Nimba patra, gruta, kshoudra, daruharidra, yasti-madhhu and tila kalka are the ingredients.
  - Nimba has tikta, kāsāya rasa, śīta vīrya, katu vipāka. It is kapha pitta śāmaka. It has raktashodaka, Vraṇa Śōdhana, kāndūgna, krimigna properties. [vi]
  - Daruharidra has tikta kāsāya rasa, uṣna vīrya and katu vipāka. It is kapha pitta hara. It has raktashaḍaka, Vraṇa Śōdhana, Vraṇa Rōpaṇa and sōtha hara properties. [vii]
  - Yastimadhu has madhura rasa, śīta vīrya and madhura vipāka. It is vāta pitta hara. It has Vraṇa Rōpaṇa, kāndūgna and sōtha hara properties. [viii]
  - Tila has madhura rasa, uṣna vīrya and madhura vipāka. It is vāta hara. It has Vraṇa Rōpaṇa property. [ix]
  - Madhu has madhura rasa, kāsāya anurasa, uṣna vīrya and madhura vipāka. It is tridōṣa hara. It has Vraṇa Śōdhana, vilekhaṇa, krimigna and yogavāhi properties. [x]
• Grutha has madhura rasa, śīta virya and madhura vipāka. It is vāta pitta hara. It has Vraṇa prasādana and samskarasya anuvartana property.[xi,xii]

d) The results obtained were statistically calculated and found to be highly significant at the level of P<0.001.

Thus, from this study it can be speculated that, the combined effect of Jalaukāvacharaṇa and Avachūrṇa of Nimbapatrādi varti in varicose ulcer helps in Śōdhanā and Rōpaṇa of Vraṇa and also enhances the healing rate, decreases pain, itching and discharge in ulcer.

REFERENCES
iv. Dr.Shobha G.Hiremath, A Text Book Of Bhaisajya Kalpana , Bangalore, IBH Prakashana.
vi. The Ayurvedic Pharmacopoeia of India, Part I Vol. VI, p. no. 218

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