Effect of JALAUKAVACHARANA in the management of Dushtavrana with special reference to Non-Healing Ulcer

1 Vivek Bhatt, 2 Ajay Kumar Gupta, 3 Vishal Verma, 4 Ajai Kumar, 5 Tapish Maheshwari

1, 4, 5 Research Scholar, M.S. (Ay) Shalya Tantra, Rishikul Campus, Haridwar, Uttarakhand Ayurveda University, Dehradun

2 Associate Professor, Dept. of Shalya Tantra, Rishikul Campus Haridwar, Uttarakhand Ayurveda University, Dehradun

3 Associate Professor, Dept. of Shalya Tantra, Rishikul Campus Haridwar, Uttarakhand Ayurveda University.

Abstract—The presence of Dushta Vrana worsens the condition of the patient with different complications and may become fatal. Although Vrana is the oldest known ailment, its high prevalence worldwide is still a matter of concern. In India, most of the population still resides in poor hygienic and malnourished conditions, so the incidence of infection is maximum and delayed wound healing is more common. Application of Jalaukavacharanafort local application and Darvi Guduchyadi Ghan Vatial for a maximum period of six months. It can be concluded that Jalaukavacharanahas high efficacy in both Vrana Shodhana and Ropana, without producing any adverse effects and hence can be used as an alternative approach for management of Dushta Vrana. Keywords: Jalaukavacharana, Dushta Vrana.

I. INTRODUCTION

AcharyaCharaka defines Dushta Vrana in Dvivraniyadhyaya4 as whitish, deep seated, thick margin, yellowish, bluish, cyanosed, foul smelling, red, and with tiny openings. Acharya Sushruta defines classically in vranasravavigyani6 chapter as pus discharging, painful, foul smelling, itching, and with chronicity. Moreover, wound which refuses to heal or heals very slowly in spite of best efforts by Chikitsa Chatuspadai.e Bhishak, Dravya, Upsathata and Rogican be considered as Dushta Vrana. Acharya Madhvaka defines Dushta Vrana as-

पुतिपूयातिदुष्टास्रकस्रावोत्संगी

chirasatirtha
dushtavrana

(Ma. Ni.42/7)

Means Vrana which have discharge of pus, pus mixed blood, deep seated with hollow cavity, chronicity, foul smell and opposite to Shuddha Vrana are included in Dushta Vrana.

In Dalhan Tika7it is mentioned that-

प्रीकारेचिककत्सिे, प्रयिेिप्रयत्नेकुवीि।।

This means the wounds which need extra therapeutic effort or more conscious approach for their management are considered as Dushta-Vrana.

As seen in modern surgical practice, Wounds are managed by debridement, antiseptic solution and administration of antibiotics in superimposed infection, analgesics and anti-inflammatory drugs, and wound dressing with foam, hydrogels, hydrocolloids, silver, iodine etc. Skin grafting is also indicated when wound is deep and large in size.

Acharya Sushruta has elaborately explained sixty types of procedures [ShashtiUpakrama8] and also mention 13 measures for Vrana Shodhana and Ropana. He also mentions Raktamoksha in acute inflammatory conditions, indurated, cyanosed, painful, swellings, and strictly advised Jalaukavacharana in contaminated wound9. Jalaukavacharana (leech therapy) is one of the examples of the use of invertebrates in human diseases in the form of bloodletting and has now emerged as widely useful therapy in large number of diseases and is attracting the eyes of researchers all over the world. After all methods and drugs indicated for Vrana management there is need of such ailment which pursue the Shodhana and Ropana property.

Jalaukavacharanahas its own benefits viz:-

1. Jalauka (Leech) is anti-phlogistic, i.e. used for relief of local inflammation in tissue12.

2. Jalauka has Capability of improving microcirculation13.

3. Jalaukasucks blood by self-regulatory mechanism i.e. they get detached from the wound on its own after sucking properly.

4. Jalauka currently used during post-operative care of re-implanted fingers, skin graft and venous congestion14.

5. Jalauka exerts Local effect in the wound due to several active substances, emitted into it during sucking.
Thus Jalaukavacharanawas selected for the management of Dushta Vrana along with Adjuvant measure (Darviguduchyadighanvantari) to open a new avenue for management of DushtaVrana.

II. MATERIALS AND METHODS

A. SELECTION OF PATIENTS:

1. Patients with signs and symptoms of Dushta Vrana, attending the O.P.D. and I.P.D. of Department of Shalya Tantra, Rishikul campus, UttarakhandAyurved University, Haridwar, (U.K.) India, were registered irrespective of their sex, religion, occupation, education etc. Total 30 patients were selected for the study.

2. EXCLUSION CRITERIA: Wound with other disorders e.g. H.I.V., hepatitis etc, Malignant ulcers, Tubercular ulcers, Syphilitic ulcers, Leprosy, Mortorels hypertensive ulcers and Patient having history of bleeding disorders.

B. DIAGNOSIS PHASE:-

All patients of Dushta Vrana were diagnosed on the basis of clinical presentation and findings. The diagnosis of Dushta Vrana was done on both Modern and Ayurvedic parameters. For this purpose a special research proforma was prepared as per the Modern and Ayurvedic view.

C. EXAMINATION OF PATIENT

1. A-Laboratory investigations

   a) Blood routine investigations - Hb%, TLC DLC ESR blood sugar, blood urea, serum creatinine, SGOT, SGPT, LFT, blood group, HIV, HbsAg., URINE for culture and sensitivity, Pus culture and sensitivity, Biopsy if needed, FNAC of regional lymph nodes

   B- Radiological

   X-ray chest of the affected part if needed, Doppler or duplex scan, D.S.A. and Venography.

III. METHODOLOGY OF JALAUKAVACHARANA:

A. Purva Karma:

   a. Preparation of the leeches - Jalaukas were first prepared for Raktamoksha by keeping in Haridra Jala, prepared by adding a few pinches of Haridra Churna in a kidney tray half filled with fresh water.

   b. Preparation of patient - The ulcerated site was cleaned with normal saline to remove the discharge. After that wound were cleaned by dry gauge.

B. Pradhana Karma

   The leeches were caught with the gauze or cotton pad after wearing the rubber gloves. Prepared active leeches were then kept over the wound. At non ulcerated site skin was punctured with sterilized needle and when blood oozes the leech were kept on it. When a leech attached itself to the site, wet cotton pad was placed over it.

C. Paschata Karma:

   a. Leech Care: Haridra Churna was then sprinkled over the leech’s anterior sucker (mouth) for inducing vomiting After expelling all the blood from its gut, the leech became active again and was stored in fresh water.

   b. Patient Management: Shatadhauta Ghrita was applied over the bite lesions. A few minutes later, cotton gauze pieces were kept over the bleeding sites with firm pressure to absorb the secondary bleeding.

The process was continued ones a week with duration of the treatment up to six months.

DURATION OF THE TREATMENT:

All the cases were treated till the Ulcer heals completely. Maximum duration of study was taken SIX MONTHS.

FOLLOW UP PERIOD

Follow up was done once weekly for one month then monthly once for two months after the completion of treatment.

3) ASSESSMENT CRITERIA:

   a) SUBJECTIVE CRITERIA: Arterial pulsation and Lymphadenopathy

   b) OBJECTIVE CRITERIA: Shape, Number, Granulation, Tenderness, Smell, Pain, Discharge, Itching and Size.

   OBSERVATION

   • In this series of 30 patients, the youngest patient was of 28 years and eldest patient was of 70 years. Maximum patients i.e. 70% patients were found in the age group of 31-50 years and 23.33% patients were in the age group 51-70 years and 6.66% patients were in the age group of 10-30 years.

   • In analysis 7 female patient (23.33 %) were found during study and rest 23 (i.e. 76.67 %) were male. Maximum cases i.e. 28 patients (93.33 %) were found of Hindu religion, 3 patients (6.67%) of Muslim religion.

   • In analysis 2 patient (6.67%) were found unmarried during study and rest 28 (i.e. 93.33 %) married persons. out of the 30 cases, 76.67% patients were reported from rural area, while 23.33 % patients were belonging to the urban area.

   • In analysis majority of the patients belonged to middle class i.e. 60% whereas 40% patients were from poor class of the society and none were reported from high socio-economic status.

   • Incidence of occupational status revealed that 46.67% patients were labours, 20% were housewives, 20% were service man and 13.33% were not doing anything. It was observed that the 23.33% patients were consuming vegetarian diet whereas, 76.67% patients were on mixed diet.

   • Maximum 50% patients were not addicted whereas 43.33% were addicted to Tobacco either by smoking or chewing. 6.67% patients were addicted to Alcohol. Maximum patients 73.34% have good appetite. Maximum 73.34 %
patients were having sound sleep whereas 26.66% patient’s sleep was disturbed.

• Maximum 73.34% patients were having Mridukostha whereas 16.67% patient’s Kosthawas Madhyama.

• This study revealed that 36.66% patients belonged to Vata-Pittajapakriti, 13.34% patients were of Pitta-Kaphajapakriti and 50% patients belonged to Vata-kaphajapakriti.

• This study reveals that maximum 53.34% patients comes with irregular shape, 33.33% patients with oval shape and 13.33% patients comes with circular shape

• This study reveals that maximum patients (60%) have mild tenderness, 26.67% patients have no tenderness and 13.33% patients have severe tenderness.

• This study reveals that 76.67% patients have nil granulation, 13.33% patients have pale granulation and 10% have unhealthy granulation.

• This study reveals that maximum patients have mild pain, 23.34 patients have severe pain, 3.33% patients have moderate pain and 10% patients have no pain.

• This study reveals that maximum patients have mild smell, 23.34 patients have severe smell and 3.33% patients have moderate smell. This study reveals that arterial pulsation was normal in 53.34% patients. it was feeble in 23.33% patients and absent in 23.33% patients.

• This study reveals that lymphadenopathy was absent in maximum (93.33%) patients and present in 6.67% patients.

• This study reveals that maximum patients(80%) come after more than 2 months, 13.33% patients come after 1-2 month and 6.67% patients come before one month.

• This study reveals that maximum patients (93.33%) have Nija Vrana and 6.67% patients have Agantuja Vrana.

• This study reveals that Maximum patients (46.67%) have poor hygiene and then (40%) have average hygiene.

D. Effect of Therapy

### TABLE NO. 1 EFFECT ON PAIN

<table>
<thead>
<tr>
<th>No of days</th>
<th>Mean</th>
<th>Mean diff</th>
<th>% relief</th>
<th>SD</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month</td>
<td>1.44</td>
<td>0.16</td>
<td>23.39</td>
<td>0.91</td>
<td>0.13</td>
<td>2.97</td>
<td>&lt;0.01</td>
<td>HS</td>
</tr>
<tr>
<td>2 month</td>
<td>1.70</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>3 month</td>
<td>1.68</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>4 month</td>
<td>1.62</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>5 month</td>
<td>1.58</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>6 month</td>
<td>1.54</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
</tbody>
</table>

The mean score of Tenderness before treatment was 0.56 which came down to 0.36 after 1 month, 0.06 after 2 month, 0.06 after 3 month, 0.03 after 4 months and 0 after completion of treatment by giving 100% relief.

The result shows that treatment was statistically highly significant at p < 0.001.

### TABLE NO. 2 EFFECTS ON TENDERNESS

<table>
<thead>
<tr>
<th>No of days</th>
<th>Mean</th>
<th>Mean diff</th>
<th>% relief</th>
<th>SD</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month</td>
<td>0.56</td>
<td>0.06</td>
<td>35.29</td>
<td>0.40</td>
<td>0.07</td>
<td>2.69</td>
<td>&lt;0.01</td>
<td>S</td>
</tr>
<tr>
<td>2 month</td>
<td>0.56</td>
<td>0.06</td>
<td>35.29</td>
<td>0.40</td>
<td>0.07</td>
<td>2.69</td>
<td>&lt;0.01</td>
<td>S</td>
</tr>
<tr>
<td>3 month</td>
<td>0.56</td>
<td>0.06</td>
<td>35.29</td>
<td>0.40</td>
<td>0.07</td>
<td>2.69</td>
<td>&lt;0.01</td>
<td>S</td>
</tr>
<tr>
<td>4 month</td>
<td>0.56</td>
<td>0.06</td>
<td>35.29</td>
<td>0.40</td>
<td>0.07</td>
<td>2.69</td>
<td>&lt;0.01</td>
<td>S</td>
</tr>
<tr>
<td>5 month</td>
<td>0.56</td>
<td>0.06</td>
<td>35.29</td>
<td>0.40</td>
<td>0.07</td>
<td>2.69</td>
<td>&lt;0.01</td>
<td>S</td>
</tr>
</tbody>
</table>

The mean score of itching before treatment was 0.56 which came down to 0.36 after 1 month, 0.06 after 2 month, 0.06 after 3 month, 0.03 after 4 months and 0 after completion of treatment by giving 100% relief.

The result shows that treatment was statistically highly significant at p < 0.001.

### TABLE NO. 3 EFFECTS ON ITCHING

<table>
<thead>
<tr>
<th>No of days</th>
<th>Mean</th>
<th>Mean diff</th>
<th>% relief</th>
<th>SD</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month</td>
<td>1.73</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>2 month</td>
<td>1.73</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>3 month</td>
<td>1.73</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>4 month</td>
<td>1.73</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>5 month</td>
<td>1.73</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
</tbody>
</table>

The mean score of Discharge was 1.73 before treatment reduced to 1.33 in 1 month, 0.76 in 2 month, 0.26 in 3 month and 0.20 in 4 months and 0.06 after completion of treatment with 96.15% relief in symptom.

This result shows statistically highly significant at p < 0.001.

### TABLE NO. 4 EFFECTS ON DISCHARGE

<table>
<thead>
<tr>
<th>No of days</th>
<th>Mean</th>
<th>Mean diff</th>
<th>% relief</th>
<th>SD</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month</td>
<td>1.73</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>2 month</td>
<td>1.73</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>3 month</td>
<td>1.73</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>4 month</td>
<td>1.73</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>5 month</td>
<td>1.73</td>
<td>0.06</td>
<td>33.37</td>
<td>0.81</td>
<td>0.10</td>
<td>4.01</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
</tbody>
</table>

The mean score of Vomiting was 1.73 before treatment reduced to 1.33 in 1 month, 0.76 in 2 month, 0.26 in 3 month and 0.20 in 4 months and 0.06 after completion of treatment with 96.15% relief in symptom.

This result shows statistically highly significant at p < 0.001.
Mean score of Smell before treatment was 1.56 which came down to 1.23 after 1 month, 0.74 after 2 month, 0.36 after 3 month, 0.20 after 4 month and 0.09 after 6 month of treatment by giving 95.74% relief. The result showed that treatment was statistically highly significant at p < 0.001.

E. Overall effect of Therapy:

Total 30 patients were treated in this present study out of which 86.68% were Cured Completely Whereas 13.32% were markedly healed. None of the patients remained unchanged/ uncured in treatment group.

In none case any sign and symptom of the recurrence was noticed during follow up.

Jalaukavacharanapossesses high efficacy in both Vrana Shodhan and Ropana, without producing any adverse effects. It is cost effective and easy to apply. Hence, it can be used as an alternative approach for management of Dushta Vrana.

DISCUSSION

In search of an effective Ayurvedic measure, Jalaukavacharana was done and it came out with remarkable results in healing of Dushta Vrana.

An Ulcer can be co-related with Nija Vrana, and Agantuja Vrana can be established as Wound on the basis of mode of onset and characteristic features.

Probable Mode of Action of Jalaukavacharana in Dushta Vrana:-

Susruta also indicated Raktamokshana in acute inflammatory swellings for prevention from Vedana and Paka. He strictly mentioned Jalaukavacharana in Savishashopha( infected swellings)But Jalaukavacharanahas its own benefits viz.-Jalauka( Leech) is anti-phlogistic, i.e. used for relief of local inflammation in tissue and has capability of improving microcirculation.Jalaukasucks blood by self- regulatory mechanism i.e. they get detached from the wound on its own after sucking adequately,jalauka is currently used during post-operative care of re-implanted fingers, skin graft and venous congestion.Jalauka exerts local effect in the wound due to several active substances, emitted into it during sucking.Jalaukavacharana's painless procedure, less time consuming, and does not require hospitalization.

That is why Jalaukavacharana was taken for this study.According to AcharyaSushruta,Jalaukavacharanais the preferred method of bloodletting in Bala, Nari,Durbala, Bhiru and Sukumara.Jalauka is also said to be the best "Anushastra" (used in place of shastra in those who fears from surgery) by AcharyaVagbhata.
