



# To Evaluate the Shodhana Effect of Kampillak Churna Avachurnan in Dushtavrana

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## Abstract

Vrana being a very important issue in the branch of surgery which demands special attention. The study of wound care is continuously upgraded and updated, with newer modalities, to reduce the possible complications, side effects during the course of treatment and also to reduce a time taken for complete healing of the wound with minimal cicatrization. Ayurveda has a big list of plants, which are attributed with Vranashodhana and Ropana (wound healing) activity. Avachurnan is feasible which it can also be done by the patient at home without any medical supervision. Hence a search for more effective and safe method of Vranashodhana and Ropana is a demand for management of Vrana. Falraj (Hairs of Fruit) and other parts of Kampillak are used externally to promote the healing of ulcers and wounds as it has property of Vranashodhana, Ropana, Shleshma, Kruminashak. Aim is to study the Shodhana effect of Kampillak Churna Avachurnan in Dushtavrana. And then it is statistically analyzed the efficacy based on collected data. The study includes inclusion and exclusion criteria and two groups (Group A and Group B), 30 patients each group. Significant reduction seen in all 6 symptoms. So we can conclude that Kampillak Churna Avachurnan offers distinct advantages in Dushtavrana Shodhana Churna gives beneficial effects as conservative management in spite of surgical interventions such as debridement procedure.

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**Key Words:** Shodhana, Dushtavrana, Wound, Kampillak Churna, Avachurnan.

**DOI Number:** 10.14704/nq.2021.19.11.NQ21245

**NeuroQuantology 2021; 19(11):443-450**

## Introduction

The term wound is break in the continuity of soft parts of body structures caused by violence or trauma to tissues. In Ayurvedic classical texts term used for wound is Vrana and defined as 'The discontinuity of body tissue /disruption/ break/rupture//a part of body'. The fast lifestyle of today's society, unhealthy diet such as fast food, alcohol, unhealthy diet are causative factors for Dosh Dushti i.e. Nija Vrana. Sushruta describes Vrana as it covers the site and the scar even after healing. Sushruta has described two types of Vrana i.e. Nija and Aagantuj. [1]

The classics have described Atisanvruto, Ativivruo, Atikathino, Atimrudu, Utsanna, Avasanna, Atisheeta, Atiushna, Krishna, Rakta, Peeta, Shukla Varna, Vedana, Daha, Paka, Raga, Kandu, Shopha, Pidaka, Dushta-shonitsravi, Dirghakalanubandhi,

Putipuyasravi, Atigandhadiyukta as the symptoms of DUSHTAVRANA. In Sushrut Samhita, Vrana along with its complication and management have been discussed in detail in the Vranitopaasaneeya Adhyaya. [1]

In Shasti upakarma one of the most important upakarma is Avachurnan. Vranachurnan Avachurnan is local application of Churna. As mentioned in Ayurveda Samhitas, it is powder of medicines has been spread over the wound.[1]

Kampillak (*Mallotus phillippensis* Muell Arg.) belongs to Family Euphorbiaceae. [2] Sushuruta has describe multiple Avachurnan Dravyas in his Sutrasthan in which he has mentioned Kampillak and form the group known as the Shyamadi Gana.[Su.Su 38/29 ]

According to various Samhitas and Nighantus like Dhanvantri and Bhav Prakash Nighantu, Kampillak

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has been been as Vrana Nashak Dravya in Dusta Vrana.[4]

## Aim And Objectives

### Aim

Shodhana Effect of Kampillak Churna Avachurnan on Dushtavrana.

### Objectives

Evaluation of the effect of Kampillak Churna

Avachurnan in Dushtavrana.

Comparison of Kampillak Churna Avachurnan with Povidone-iodine ointment given in Dushtavrana. Statistically analyse the Shodhana effect of Kampillak Churna Avachurnan based on collected data.

## Material And Methods

### A) Materials

1) Drug – Kampillak Churna

**Table 1 shows properties of Kampillak [5]**

Guna	Rasa	Virya	Vipak	Karma	Parts Used
Laghu, Ruksha, Tikshna	Katu	Ushna	Katu	Kapha-Vata Shamaka	Glands and hair of fruit

Selection of patient – Patients was diagnosed with Dushtavrana and selected for the study after proper consent.

Utilization – Kampillak Churna Avachurnan has been done in patients diagnosed with Dushtavrana. The above mentioned churna was used for the study. 2) Povidone-Iodine Ointment (Povidone-Iodine Ointment) [6]

Povidone iodine, which is a polyvinyl Pyrrolidone complexed with iodine. It is a rapidly acting broad spectrum (bacteria and fungi) germicide.

It has variable action against bacterial spores and tubercle bacilli, thus Povidone Iodine makes a nearly ideal disinfectant/antiseptic.

## B) Methods

### 1) Type Of Study

Open randomised clinical study.  
 Observational study before and after treatment.

### Place Of Study

Opd/IpD- Shalya Department Of Bharati Vidyapeeth (Deemed To Be) University Ayurved Hospital,

Katraj,Pune, India.

### Sample Size

Patients diagnosed with dushtavrana has been selected for the study. 444

Total Number of patients-60

As per prevalence of number of patients in OPD and IPD of ShalyaTantra Dept. total 60 patients has been selected.

Group A (Trial group) - 30 patients.

Group B (Control group) - 30 patients.

### Study Groups

Selected patients will divided into two groups

Group A - Trial group.

Group B - Control group

And randomised method has been used.

### Study Design

Age: No age limit has been considered.

Sex: Either sex.

Dosage: Depending on wound size.

**Table 2: shows Criteria For Assessment**

Inclusion Criteria:	Exclusion Criteria:
Dushtavrana.	Dagdha Dushtavrana, e.g. Electrical shock, Rasaynik, Agnidagdha.
Shashtra karmottar Dushtavrana.	Danshjanit Dushtavrana, e.g. Shwandansh, Sarpadansh etc.



Diabetic wound.	HIV positive patients. HBsAg positive patients.
	Osteomyelitis.
	Compound fracture.

**Table 3: shows Plan Of Work**

Group A - Trial group	Group B – Control group
Sample size – 30 patients	Sample size –30 patients
Cleaning of the wound has been done by normal saline.	Cleaning of the wound has been done by Povidone-Iodine solution
Kampillak Churna Avachurnan has been done on Dushtavrana	Povidone-Iodine ointment has been applied on Dushtavrana
Sterile dressing pad has been kept and bandage has been done as per requirement.	Sterile dressing pad has been kept and bandage has been done as per requirement.
Follow up – Daily dressing has been done till 21 days or sign of Shuddha Vrana whichever occurs first.	Follow up – Daily dressing has been done till 21 days or sign of Shuddha Vrana whichever occurs first.
Observations have been noted before treatment and after treatment.	Observations have been noted before and after treatment.

**Investigations**

Haemogram with ESR.  
 BSL-1) fasting 2) post prandial.  
 HIV  
 HBsAg.  
 X-Ray of specific part (if required).

scale and scored as 1 to 10.

Methods of assessment of objective parameters- 445  
 DISCHARGE/VRANASRAV –  
 Normal      0 Absent  
 Mild          1 slightly wet gauze  
 Moderate    2 partially wet gauze  
 Severe       3 fully wet gauze

**Parameters Of Assessment**

Method of assessment of subjective parameters  
 PAIN -Pain has been calculated on visual analogue

**Table 4: Shows Nature Of Discharge**

Discharge	Grade
Serous	0
Sanguineous	+
Serosanguineous-Seropurulent	++
Purulent	+++

**Size**

Size has been measured in Length x Width x Height before treatment and after treatment.

**Table 5: shows Vranatala (Slough/Necrotic Tissue )-**

GRADE	
0	Smooth, regular and with healthy granulation
1	Smooth, irregular, slight discharge, less granulation



2	Rough, regular wet with more discharge and with much slough needs dressing.
3	Profuse discharge, with slough, needs frequent dressing.

**Table 6: Shows Odour/Vranagandha**

GRADE	
0	No smell
1	Tolerable unpleasant smell
2	Bad smell
3	Foul smell which is intolerable

**Table 7: Shows Colour/ Vranavarna**

GRADE	
0	Pinkish red
1	Slight Pinkish red
2	Slight Whitish/ Yellowish
3	Whitish/ Yellowish

**Observations And Results**

The data collected and compiled from this clinical

trial is sorted out and processed further by various statistical methods. The observations found are as follows:

**Table 8: shows Age Distribution**

Age Group	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
< 20 Years	1	3.3	3	10.0
20-30 Years	1	3.3	6	20.0
30-40 Years	7	23.3	4	13.3
40-50 Years	5	16.7	8	26.7
50-60 Years	8	26.7	4	13.3
> 60 Years	8	26.7	5	16.7
TOTAL	30	100.0	30	100.0

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**Table 9: shows analysis of Variance of Gender between group A and group B**

Gender	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Male	21	70.0	21	70.0
Female	9	30.0	9	30.0
TOTAL	30	100.0	30	100.0

**Table 10: shows analysis of Variance of Occupation between group A and group B**

Occupation	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Driver	2	6.7	4	13.3
Farmer	4	13.3	7	23.3
Housewife	8	26.7	7	23.3
Police	2	6.7	0	0.0



Private Job	4	13.3	8	26.7
Retired	0	0.0	1	3.3
Student	2	6.7	3	10.0
Worker	8	26.7	0	0.0
TOTAL	30	100.0	30	100.0

**Table 11: shows analysis of Variance of Discharge between group A and group B**

DISCHARGE	Median		Wilcoxon Signed Rank Test	P-Value	% Effect	Result
	BT	AT				
Group A	3	0	-4.887a	0.000	71.0	Significant
Group B	3	0	-4.900a	0.000	76.6	Significant

**Table 12: shows analysis of Variance of Pain between group A and group B**

PAIN	Median		Wilcoxon Signed Rank Test	P-Value	% Effect	Result
	BT	AT				
Group A	6	0	-4.806a	0.000	70.5	Significant
Group B	6	1	-4.797a	0.000	74.5	Significant

**Table 13: shows analysis of Variance of Slough between group A and group B**

SLOUGH	Median		Wilcoxon Signed Rank Test	P-Value	% Effect	Result
	BT	AT				
Group A	2	0	-4.928a	0.000	68.7	Significant
Group B	2	0	-4.973a	0.000	75.5	Significant

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**Table 14: shows analysis of Variance of Foul Smell between group A and group B**

FOUL SMELL	Median		Wilcoxon Signed Rank Test	P-Value	% Effect	Result
	BT	AT				
Group A	3	0	-4.875a	0.000	70.7	Significant
Group B	2.5	0	-4.889a	0.000	75.3	Significant

**Table 15: shows analysis of Variance of Color between group A and group B**

COLOUR	Median		Wilcoxon Signed Rank Test	P-Value	% Effect	Result
	BT	AT				
Group A	2	0	-5.027a	0.000	72.1	Significant
Group B	2	0.5	-4.876a	0.000	77.6	Significant

**Table 16: shows Comparison between Group A and Group B.**

	Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U	P-Value
DISCHARGE	Group A	30	30.90	927.00	438.000	0.044
	Group B	30	37.60	1128.00		
	Total	60				
PAIN	Group A	30	35.32	1059.50	305.500	0.030
	Group B	30	39.80	1194.00		
	Total	60				
SLOUGH	Group A	30	28.50	855.00	210.000	0.000
	Group B	30	37.50	1125.00		
	Total	60				



FOUL SMELL	Group A	30	30.57	917.00	298.000	0.013
	Group B	30	35.43	1063.00		
	Total	60				
COLOUR	Group A	30	22.35	670.50	394.500	0.031
	Group B	30	32.65	979.50		
	Total	60				

**Table 17: shows analysis of Variance between group A and group B**

Size		Mean	N	SD	SE	t-Value	P-Value	% Effect	Result
Group A	BT	12.77	30	15.46	2.82	4.132	0.000	50.4	Significant
	AT	6.33	30	8.47	1.55				
Group B	BT	6.60	30	6.53	1.19	4.167	0.000	54.0	Significant
	AT	3.03	30	3.24	0.59				

**Table 18: shows Overall comparison between Group A and Group B**

Parameter	% Effect	
	Group A	Group B
Discharge	71	76.6
Pain	70.5	74.5
Slough	68.7	75.5
Foul Smell	70.7	75.3
Color	72.1	77.6
Size	50.4	54

**Discussion**

**On The Basis Of Age**

Maximum patients (26%) seen in trial group were of age group 50-60, and >60 years.

Patients (26%) seen in control group were of age group 40-50 years.

The incidence of Dushtavrana being most common in these age groups was due to dominance of Pitta and Vata dosha the process of aging begins. Due to consumption of various Hetu it may add upto delayed healing process.

**On The Basis Of Gender**

Maximum patients (70%) seen in trial group were of male gender.

Maximum patients (70%) seen in control group were of male gender.

**On The Basis Of Occupation**

Maximum patients (26%) in trial group were housewife, workers and Maximum patients (26%) in control group were from private job. The above observation comes to the conclusion that workers,

housewives and private job were more affected from dushta vrana it show that low income of patients caused late to present in the hospital which cause the wound to be infected

**On The Basis Of Discharge (Vranasrava)**

The analysis shows that in case of reduction in Discharge in Group A is 71.0 % and Group B is 76.6 %.

The Ruksha and Ushna Guna leads to Kleda Shoshan and Tikshna Guna helps to do Lekhan Karma of the vitiated Doshas in Dushtvrana, which helps to reduce discharge in Dushtavrana.

Though in both Group A and Group B reduction of discharge was significant but comparing these two Groups statistically there is no much difference.

**On The Basis Of Pain (Vedana)**

The analysis shows that in case of Pain reduction percentage in Group A after 21 days of treatment was 70.5 %. In group B it was 74.5 %, significant reduction effect was observed in both groups. However, there were 4. 0% better pain relief in



control group.

An active ingredient of Kampillak having Vatashamak activity which helps in reducing the pain significantly in trial group (Group A), but marginally less than control group (Group B)

Though in both Group A and Group B reduction of pain was significant but comparing these two Groups statistically there is no much difference.

### On The Basis Slough (Vranatala)

The analysis shows that in case of decreasing the slough percentage in Group A after treatment was 68.7 and in Group B it was 75.5. P-values for Group A is 0.000 and P-value for Group B is 0.000, so we can observe that p-values for Group A and Group B are less than 0.05, Hence we conclude that Effect Observed in both groups are significant.

### On The Basis Of Foul Smell

Significant reduction is seen in foul smell in both the groups.

### On The Basis Of Colour

The analysis shows that in case of color percentage in Group A after treatment was 72.1 and in Group B it was 77.6. P-values for Group A is 0.000 and P-value for Group B is 0.000, so we can observe that p-values for Group A and Group B are less than 0.05, Hence we conclude that Effect Observed in both groups are significant.

### On The Basis Of Size

The analysis shows that in case of reduction in Size in Group A after treatment 50.4% and Group B 54.0 %. The mean score in Group A was reduced from 12.77 to 6.33 and in Group B mean score was reduced from 6.60 to 3.03 after treatment.

As Kampillak Avachurnan not only dries the discharge but doesn't allow new slough to form hence promoting the ropana effect which leads to healthy granulation tissue formation.

Significant effect was seen in the color of wound before treatment in trial group as well as control group as compared to after treatment.

### On The Basis Of Sthan Of Vrana

In the trial group maximum number of patients (65%) were having wound at lower limb followed by 35% of cases were having wound over trunk as in trial group maximum number patient were of Nija Hetu. On the contrary in control group maximum

number of patient (20%) had wound over trunk i.e Shastrakarmottar Vrana while wound at lower limb contribute only 80% of cases.

In both of the group wound site over head and neck contribute minimum number of patients i.e. 5%.Kampillak is Vrana Shodhan drug too.It act directly on Krumi, Kapha, Kushta and does Shaman of Vata Dosha with its Katu Vipak.[10]

As Kampillak belongs to 'Katuvarga' it posses all its properties like Shodhan of doshas, Shaman of Kapha ,Krumi, Visha, Kushtha, Kandu which plays important role in Dushta Vrana Shodhan .Katu, Kashay, Laghu and Tikshna of Kampillak also does Shoshan of Puya and hence help in dushta Vrana Shodhana.and Chedan property removes cellular debries from wound. Kampillak is one of the drug of 'Tail Varga 'which also posses peculiarity of Dushta Vranashodhan. [11]

### Conclusion

Kampillak Churna Avachurnan showed positive effects in disinfection of infected wounds. [12] It relived pain and foul smell. Vranavachurnan was a simple procedure and cost effective too. But Vranavchurnan offers distinct advantages in Dushtavranshodhan. Kampillak Churna gives beneficial effects as conservative management inspite of surgical interventions such as debridement procedure. It relives pain and foul smell more quickly than any other treatment modalities. Kampillak Churna Avachurnan is a rather simple procedure and cost effective too. The endeavour of our study would be best appreciated when it will be bestowed with crown of best and ultimate treatment of infected wound. The quest for knowledge and research in Ayurveda is eternal but we have marked the milestone in it.

### Acknowledgement

The author feels to express sincere thanks to Dr. Abhijit Patil, Principal, B.V.D.U.C.O.A.

Pune, Dr. Umesh Vaidya (HOD) Department of Shalya Tantra, B.V.D.U.C.O.A.and also Dr. Amit Paliwal (Ass. Professor) Department of Shalya Tantra, B.V.D.U.C.O.A.for their valuable guidance. It also helped me in doing a lot of Research and I came to know about so many new things. I am really thankful to them.

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