

A STUDY ON GANDŪSHA AS AN UPAKRAMA IN MUKHAGATA ROGA W.S.R. TO TRIPHALĀ KWĀTHA IN SHĪTĀDA (GINGIVITIS)

R. B. Hosamani

MD (AY), Associate Professor, Dept. of Swasthavritta and Yoga,
B.V.V. Sangha's Ayurved Medical College and Hospital, Bagalkot – 587 101, Karnataka, India

Email: ayush.dr.ravi@gmail.com

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ABSTRACT

Shītāda is a type of *Dantamūlagata Rogā* mentioned under the heading of *Mukha Roga*. It is characterized by symptoms like spontaneous bleeding from the gums, swelling, blackish discolouration, halitosis and so on. Similar to this, there is a condition known as Gingivitis in western science on the basis of symptomatology which is mainly due to ignorance of oral care. The prevalence of gingivitis is as high as 45-50% in most of the Indian population. In the present study, a total of 30 patients were diagnosed with *Shītāda* (gingivitis). They were randomly assigned in two groups. *Triphalā Kwātha Gandūsha* has been used in Group – A and Group – B (Control) was treated *Sukhoshna Jala Gandūsha* for two times in a day for 30 days. Follow up was taken on 31st day. The study revealed that statistically *Triphalā Kwātha Gandūsha* showed better effect and it was found to be highly significant. Finally the finding suggests that *Triphalā Kwātha Gandūsha* is the safest, simplest and effective drug in management of *Shītāda* (gingivitis).

Key words: *Gandūsha*, *Shītāda*, Gingivitis, *Triphalā Kwātha*, *Sukhoshna Jala*.

INTRODUCTION

Shītāda is a type of *Dantamūlagata Rogā* (gingival disease) described under the heading of *Mukha Roga* (oral disease).¹ It occurs due to vitiated *Kapha* (phlegm) and *Rakta* (blood) which affect the *Dantamūla* (gum) and degenerates it by manifesting clinical features like *Raktasrāva* (spontaneous bleeding from the gums), *Shoṭha* (swelling of the gums), *Krishnatā* (blackish discolouration of the gums), halitosis (*Daurgandhya*) and so on.² Similar to this,

there is a condition known as Gingivitis in western science on the basis of symptomatology.³

Gingivitis is an inflammation of gingival soft tissue. Nation-wide survey by the Dental Council has shown that the high general prevalence of Gingivitis is during puberty and is approximately 50% in general population.^{4,5} It is caused mainly by accumulation of debris, plaque and calculus at the tooth margin mostly due to lack of oral care.⁶ If left untreated or not controlled, it

may progress to more serious conditions like periodontitis and ultimately lead to tooth loss.⁷ However, the disease is reversible. The gingival harmony can be restored with successful treatment and good oral hygiene.⁸

Ayurvedic text books have described many procedures to keep the oral cavity in a healthy state under the context of *Dinacharya* (daily regimens). Among them *Gandūsha* is one of the procedure which helps in protection, restoration and regeneration of the oral health. Sushruta and other authors have recommended *Gandūsha* as a local treatment modality in the management of *Shītāda* (Gingivitis).⁹

The drug *Triphalā* is *Kapha-pittaghna* and exhibit *Shothahara* (Anti-inflammatory), *Krumighna* (Anti-microbial), *Rasāyana* (Anti-oxidant) etc. properties¹⁰ which would help to disintegrate the pathology of *Shītāda*.

In the present study, *Triphalā Kwātha* was used in the form of *Gandūsha* in Group – A, which was a trial group whereas *Sukhoshna Jala Gandūsha* was used as control in Group – B.

AIM: To highlight *Gandūsha* is one of the *Upakrama* (remedy) for *Mukhagata rogas*.

OBJECTIVES:

1. A detailed study on *Gandūsha* and *Shītāda* (Gingivitis).
2. To evaluate the effect of *Triphalā Kwātha Gandūsha* in *Shītāda* (Gingivitis).

MATERIALS AND METHODS:

Clinical Study: The patients attending the OPD and the CAMP conducted by Dr. B.N.M.E.T's SMS PG and RC, Bijapur, Karnataka, provided the material for clinical study. The selection was done randomly after fulfilling the selection criteria for the study.

The study was conducted under the guidance of Dr. K. B. Nagur, Professor and Head, Dept. of PG Studies in Swasthavritta, during the year 2008-2009.

Selection Criteria:

1. Diagnostic Criteria:

A. Subjective Assessment Parameters:

1. *Akasmāt Rakta Srāva* (Accidental Bleeding from the gums)
2. *Shotha* (Inflammation of the gums)
3. *Shiryamāna Dantamānsa* (Recession of the gums)
4. *Krishnatā* (Discoloration of the gums)
5. *Daurgandhya* (Halitosis)
6. *Dantamānsa Mridutā* (Sponginess of the gums)
7. *Prakleda* (Exudation from the gums)

B. Objective Assessment Parameters:

1. Bleeding Index
2. Gingival Index
3. pH of Saliva

2. Inclusion Criteria:

1. Patients having classical signs & symptoms of *Shītāda* (Gingivitis)
2. Patients between the age group of 20 to 40 years, irrespective of religion, sex, socio-economic status, occupation etc.
3. Patients who are willing to sign the informed consent.

3. Exclusion Criteria:

1. Patients with marked pus discharge from the gums and Periodontal pocket.
2. Patients having any systemic disease that could cause Gingivitis.
3. Patients using any other systemic drugs which may alter the result of the study.

Research Design:

A detailed Case Proforma was prepared to study the patients as well as the disease. All patients conforming to above said selection criteria was included in the study. They were randomly assigned into two group i.e., Group-A & Group-B. Each group was consisting of 15 patients of *Shītāda* (Gingivitis). Routine investigations of blood and urine were carried out to rule out any systemic diseases, if any. All patients were received the following treatment plan in the following manner. [Tables 1]

Table 1: Particulars of treatment protocol

N	Particulars	Group –A (Trial)	Group –B (Control)
1	Total No' of Patients	15	15
2	Medicine used	<i>Triphalā Kwātha</i>	<i>Sukhoshna Jala</i>
4	Procedure adopted	<i>Gandūsha</i>	<i>Gandūsha</i>
5	Route of administration	Oral	Oral
6	Dose	<i>Mukhapurna</i> -Twice/day	<i>Mukhapurna</i> - Twice/day
7	Duration of treatment	30 days	30 days
8	Follow up & Evaluation	31 st Day	31 st Day
9	A clear demonstration of the <i>Gandūsha Dhārana</i> procedure was done to all. Instructions regarding special care of <i>Āhāra</i> (food) and <i>Vihāra</i> (activity) were advised. Oral hygiene methods and their importance in the reversal of the disease were explained to the patients of all the groups.		

Triphalā Kwātha:**Ingredients:**

1. *Amalaki* (*Emblica officinalis*) - 1 part
2. *Bibhitaki* (*Terminalia belerica*) - 1 part
3. *Haritaki* (*Terminalia chebula*) - 1 part
4. *Jala* (Water) - 16 parts

Preparation: The coarse powder of above said ingredients were taken and mixed with 16 parts of water in an earthen pot and heated over a mild fire till the liquid is reduced to 1/8th of the original quantity. It was then filtered with cloth and *Kwātha* (decoction) was collected. The warm *Triphalā Kwātha* was used for *Gandūsha* for the clinical study.¹¹

Gandūsha: It is the process of “holding any medicated liquid in the mouth to its full capacity for a specific time without allowing any movement inside the mouth.” The medicated liquid has to keep in the mouth till the person develops symptoms of *kapha purnasyatā* (filling throat by oropharyngeal secretions), *khantha srāva* and *akshi srāva* (watery discharge from the nose).¹² Once the person develops these symptoms, he can spit out the liquid.

Method: Patient was asked to sit in a chair comfortably. Apply the *Bala taila* over the head, forehead, face, neck including shoulders. *Mrudu Abhyanga* (gentle massage) was done. *Tapa Sweda* (fomentation) was given with cloth dipped and squeezed in the vessel containing hot water over these parts. He was advised to fill his oral cavity with lukewarm *Triphalā Kwātha* and raises his face a little up. He was asked to hold it till he gets *Nāsa and Netra Srāva*. After spit-

ting out the *Kwātha* he was advised to rinse the mouth (*Kavala*) with luke warm plane water for three times. Instruction regarding special care of oral cavity was given to the patient.

Criteria for Assessment of Results: The effect of treatment was assessed subjectively by clinical observations, on the basis of relief in the signs and symptoms of the disease and objectively assessed on the basis of the gingival index, the bleeding index and the pH of saliva. The scoring pattern was given from 0 to 4 depending upon the severity. The assessment of the results was done based on reduction in severity of the sign and symptom like 1 degree reduction, 2 degree reduction, 3 degree reduction, stable and deteriorate condition.

Criteria for Assessment of the Total Therapy: The total effect of the therapy was assessed on the basis of subjective and objective criteria and patients were grouped into the following five categories:

1. Cured: 100% relief in the signs and symptoms.
2. Marked improvement: More than 75 & up to 99% relief in the signs and symptoms.
3. Moderate improvement: More than 50 and upto 75% relief in the signs and symptoms.
4. Mild improvement: More than 25 and up to 50% relief in the signs and symptoms.
5. Unchanged : More than 0 and up to 25% relief in the signs and symptoms.

Data Collection and Statistical Analysis: The data were collected and properly documented. It was statistically analyzed with the help of statistician. The data

was computed for Mean, Standard deviation, Standard error, 't' value and 'P' value was obtained by using students paired and unpaired 't' test. The statistical values from each group were compared by using students unpaired 't' test. Significance interpreted as $P > 0.05$ as Insignificant, $P < 0.05$ and 0.01 as Significant and $P < 0.001$ as Highly Significant.

OBSERVATIONS

In this clinical trial, it was found that the maximum number of the patients reported in the age group of 30-40 years, of both the sex. Maximum patients were of Hindus, housewives, employees, belonged to lower class and educated up to graduate level.

All the patients complained of *Akasmāt Raktasrāva* (spontaneous bleeding from the gums) and *Daur-gandhya* (halitosis). 86.66% of the patients were having *Krishnatā* (discolouration of the gums) and *Dantamānsa Mridutā* (Spongy gums). *Dantamānsa Shotha* (inflammation of gums) was present in 80% of the patients. 70% of the patients were *Shiryamānatā* of *Dantamānsa* (gum recession). All the patients had bleeding on probing; 83.33% patients had oedema. Gingival consistency was soft in 80% and gingival recession in 70% of the patients. About 86.66% patients had alteration in the colour of the gingiva. 70% of the patients were found to be suffering since last 6 months. 20% patients were reported who suffered from dental disorder in past and had scaling treatment. 66.66% of the patients were taking mixed diet. 90% of the patients were *Mandāgni*, 70% were *Madhyama*

Kostha and 66.66% were of *Pitta-Kaphaj Prakruti*. 26.66% were *Atimāmsa sevana* (excess meat), 16.66% were taking of *Guru* (heavy), *Madhura* (sweet), *Shita* (cold), *Ruksha* (dry) type of foods. 13.33% were taking of *Matsya* (fish) 16.66% patients have the addiction of pan, tobacco, betel nut, smoking and alcohol. All the patients were used the tooth brush. 70% were adopted horizontal brushing technique. 73.33% were used Toothpaste. 80% were found cleaning their teeth only once in a day. However, 36.66% of the patients were reported *Danta dhāvana dwesha* (improper brushing). All the patients were having Halitosis, 86.66 % and 83.33% of the patients were with dental plaque and calculus respectively. None of the patients were using any oral hygienic auxiliary aids.

RESULTS:

Evaluation of the effect of treatment in Group-A:

Relief of 66.66% was observed in *Akasmāt Rakta Srāva*. 83.33% relief was obtained in *Sotha*, 36.66% was in *Siryamāna Dantamānsa*, 69.23% was in *Krishnatā*, 86.66% was in *Daurgandhya*, and *Mridutā* up to 69.23%. All were statistically highly significant at the level of $P < 0.0001$. The Bleeding index was also improved up to 69.23%. The Gingival Index was improved up to 66.66%. Similarly, pH of Saliva was improved up to 66.66%. The improvements in the indices were statistically significant at the level of $P < 0.001$. [Tables 2].

Table 2: Effect of therapy on Group – A

Chief complaints	Mean Score		Relief (%)	SD	SED	't'	'P'
	BT	AT					
Signs and Symptoms							
Akasmāt Rakta Srāva	3.00	1.33	66.66	0.49	0.126	13.22	< 0.0001
Shotha	2.60	1.27	83.33	0.46	0.211	6.32	< 0.0001
Shiryamāna	2.20	1.47	36.66	0.57	0.118	6.20	< 0.0001
Krishnatā	2.53	1.20	69.23	0.41	0.187	7.13	< 0.0001
Daurgandhya	2.73	1.20	86.66	0.41	0.133	11.50	< 0.0001
Mridutā	2.33	1.20	69.23	0.41	0.192	5.90	< 0.0001
Indices							
Bleeding Index	3.00	1.33	66.66	0.49	0.126	13.22	< 0.0001
Gingival Index	2.33	1.20	69.23	0.41	0.192	5.90	< 0.0001
pH of Saliva	3.00	1.33	66.66	0.49	0.126	13.22	< 0.0001

Evaluation of the effect of treatment in Group-B:

Relief of 46.66% was observed in *Akasmāt Rakta Srāva* which was statistically significant at the level of $P < 0.0001$. 53.33% relief was obtained in *Sotha*, which was statistically significant at the level of $P < .0001$. Relief of 6.66% was obtained in *Shiryamāna Dantamāmsa*, which was statistically non-significant at the level of $P < 0.001$. Relief of 33.33% was observed in *Krishnatā*, which was statistically significant at the level of $P < 0.0001$. Relief of

46.66% was obtained in *Daurgandhya*, which was statistically significant at the level of $P < 0.001$ and *Mridutā* up to 69.23%.

The Gingival Index was improved up to 46.66%, which was statistically significant at the level of $P < 0.001$. The Bleeding index was also improved up to 69.23%, which was statistically highly significant at the level of $P < 0.001$. Similarly, pH of Saliva was improved up to 66.66% and the improvement was statistically significant at the level of $P < 0.0001$. [Tables 3].

Table 3: Effect of therapy on Group – B

Chief complaints	Mean Score		Relief (%)	SD	SED	‘t’	‘P’
	BT	AT					
Signs and Symptoms							
Akasmāt Rakta Srāva	2.67	2.20	46.66	1.01	0.133	3.5000	= 0.0035
Shotha	2.47	2.13	53.33	0.72	0.126	2.6458	= 0.0192
Shiryamāna	2.00	1.87	6.66	0.83	0.091	1.4676	= 0.1643
Krishnatā	2.33	2.00	33.33	0.93	0.126	2.6458	= 0.0192
Daurgandhya	2.53	1.47	46.66	0.52	0.067	16.0000	< 0.0001
Mridutā	2.27	2.13	13.33	0.92	0.191	1.4676	= 0.4676
Indices							
Bleeding Index	2.67	2.20	46.66	1.01	0.133	3.5000	= 0.0035
Gingival Index	2.27	2.13	13.33	0.92	0.191	1.4676	= 0.4676
pH of Saliva	2.67	2.20	46.66	1.01	0.133	3.5000	= 0.0035

Table 4: Total Effect of therapy in two groups

No.	Grading Improvement	Group - A	Group - B
1.	Complete Relief	7 (46.66%)	-
2.	Moderate Relief	6 (40%)	-
3.	Average Relief	-	-
4.	Mild Relief	2 (13.33%)	3 (20%)
5.	Unchanged	-	12 (80%)

DISCUSSION

Shītāda (Gingivitis) is a type of gingival disease which is highly prevalent in Indian population. It is caused mainly by the accumulation of debris, plaque and calculus at the tooth margin due to lack of oral hygiene. However, the disease is reversible with successful treatment and good oral hygiene.

Gandūsha is beneficial in *Shodhana* (cleaning by pressure) of oral cavity. Retention and direct absorption of the medicine in the oral cavity (gingival epithelium) reduces the infection. Thus *Gandūsha* helps to

maintain and promotes the oral hygiene and can prevent the diseases of oral cavity.

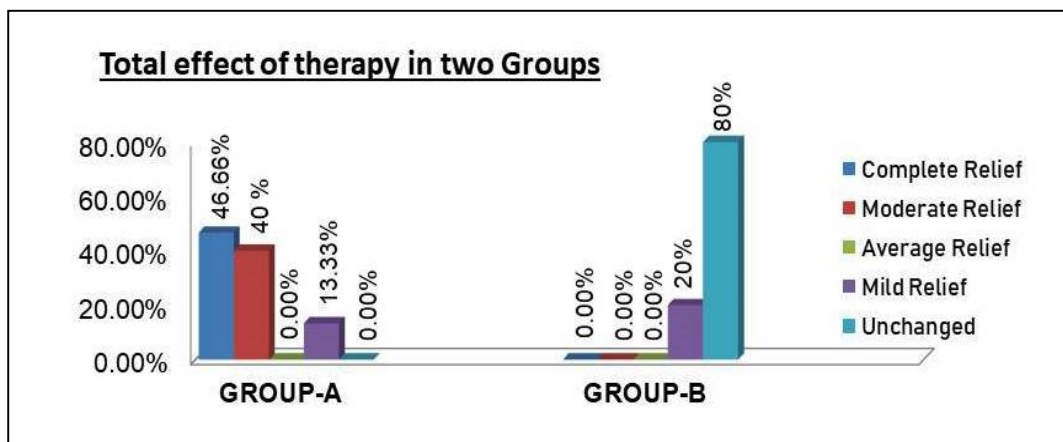
The properties of ingredients of the *Triphalā* increase the efficacy of the *Triphalā Kwātha* and help to bring the vitiated *doshās* of *Shītāda* in to normal state. The *Tridoshaghna* (*Kapha pittaghna*), *Srotoshodhaka*, *Shothahara*, *Vedanā Sthāpana*, *Krumighna*, *Rakta Shodhaka*, *Rakta Sthambhaka*, *Mukha Shodhaka*, *Lekhana*, *Rasāyana* and its pharmacodynamics properties like Anti-inflammatory, Anti-microbial, Anti-ulcer, Immunomodulatory and Anti-oxidant act as curative,

promotive and preventive measures for the clinical management of *Shītāda* (Gingivitis).

The overall effect of therapy in Trial i.e., Group-A (*Triphalā Kwātha Gandūsha*) provides complete relief in 46.66% of the patients, moderate improvement in 40%, mild Improvement in 13.33% in signs and symptoms. Whereas the overall effect of therapy in

control i.e., Group-B (*Sukhoshna Jala Gandūsha*) provides complete relief in none of the patients and none showed moderate improvement. 20% showed mild improvement and 80% patients remained unchanged in signs and symptoms (Table-4). Total effect of therapy has been depicted at Graph 1.

Graph 1: Total effect of therapy in two groups



CONCLUSION

1. Inadequate oral hygiene can be considered as a prime cause for manifestation of *Shītāda* (Gingivitis).
2. Statistical significant results were found in all cardinal symptoms in Group - A. The results are highly satisfactory because after the course of the treatment 46.66% of patients have shown good response, 40% patients have moderate response, 13.33% patients have shown poor response. During and after the period of treatment no complications and side effects were observed.
3. *Gandūsha* is one of the important and better local remedy (*Upakrama*) in disorders of oral cavity. It helps to maintain and promote the oral hygiene and can prevent the diseases of oral cavity.
4. The dietetics and lifestyle should be followed strictly to avoid the incidence of the disease. Further, there is need to increase awareness about oral hygiene in the society.
5. The availability of raw drug is very easy to get in bulk quantity. The preparation and application of

the drug is very simple and easy to adapt. Cost of the drug also very cheap.

6. In a nut shell, it is concluded from this study that *Gandūsha* with *Triphalā Kwātha* seems to be very effective in the management of *Shītāda* (Gingivitis). The repeated advocacy will provide better result.

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