

A CLINICAL STUDY TO EVALUATE THE EFFECT OF *RASNADI GUGGULU* IN THE MANAGEMENT OF DENTAL CARIES (*KRIMI DANTA*)

Dr. Muhsinath K.P.^{*1}, Dr. Pooja Devi², Dr. ManuPriya³, Dr. Satish Sharma⁴ and Dr. Vijayant Bharadwaj⁵

^{1,2,3}PG Scholar, Deptt. of Shalaky Tantra, RGGPG Ayurvedic College and Hospital Paprola, Distt. Kangra HP.

^{4,5}Reader, PG Deptt. of Shalaky Tantra, RGGPG Ayurvedic College and Hospital Paprola, Distt. Kangra HP.

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*Corresponding Author

Dr. Muhsinath K.P.

PG Scholar, Deptt. of
Shalaky Tantra, RGGPG
Ayurvedic College and
Hospital Paprola, Distt.
Kangra HP.

ABSTRACT

Krimi Danta is mentioned under *Danta Rogas* by *Acharya Susruta*.^[1] It occurs due to vitiation of *Tridosha*^[2] that result in *krishna chidra*, *chalarava* etc. Dental caries is an irreversible microbial disease of the calcified tissues of the teeth, characterized by demineralization of the inorganic portion and destruction of the organic substance of the tooth.^[3] The present study is done in single group of 9 patients of *Krimi Danta*. Patients were treated with *Rasnadi Guggulu*. The signs and symptoms were studied before and after treatment. Results of the study indicate significance of this drug as it gives 66.66% marked relief in the signs and symptoms of the patients and 22.22% of the patients were mild improved and 11.11% of the patients have no improvement.

KEYWORDS: *Krimi Danta*, *Danta Rogas*, *Rasnadi Guggulu*.

INTRODUCTION

Dental Caries is all pervading in highly industrialized societies, the caries experience varies greatly among countries and even within the country.^[4] Prevalence is more in low and middle income countries. Indians are largely affected by dental caries, periodontal disease etc. Dental caries affect 60% of Indian population, while 85% of them are affected by periodontal disease.

Shalaky Tantra, one among the *Ashtanga*, deals with the supra clavicular organs, head and neck, the diseases affecting them and their management. In *Nidana Sthana*, *Susrutha* has described 65 *Mukharog*^[5], according to the seven sub sites i.e. *Oshtha*, *Dantamula*, *Danta*, *Jihva*, *Talu*, *Kanṭha* And *Sarvani*.^[6] The *Danta Rogas*, are responsible for tooth loss. *Acharya Susruta* have described 8 *danta rogas* in *Nidana Sthana*^[7], in which *Krimi Danta* is mentioned separately.

Krimi Danta is characterized by *Krishna* (black discoloration), *Chidra* (cavity formation), *Chala* (mobility), *Srava* (pus discharge), *Samrambha* (swelling) and *Maharaja* (severe pain).^[8]

Krimi Danta can be correlated with Dental Caries. The word caries is derived from the Latin word meaning 'rot' or 'decay'. It is a complex and dynamic process where a multitude of factors initiate and influence the progression of disease. Although effective methods are known for prevention and management of Dental Caries, it's a major health problem with manifestations persisting throughout life despite treatment.^[9]

AIMS AND OBJECTIVES

1. To advice preventive measure to check the occurrence of disease in individuals.
2. To study the effect of drug on the disease.
3. To prove the effectiveness of drug in the patients of *Krimi Dant*.
4. To explore the pathogenesis of disease on the basis of classical texts and modern literature.

SELECTION OF PATIENTS

For the clinical study selection of the patients was made from amongst the patients attending the out patients wing, *Shalaky* department of R.G.G.P.G.Ayu. College Paprola. Detailed clinical history and pathological laboratory investigations were carried out before assessing the case and starting the treatment proper with the *Rasnadi Guggulu*.

Selection of all the patients of 16-60 years will be carried out on outdoor patients attending the orodental O.P.D. of *Shalaky Tantra* Deptt.

Inclusion Criteria

1. Patient presents with symptoms of dental caries.
2. Age group of 16-60 years.

Exclusion Criteria

1. Patient below 16 years and above 60 years.
2. Patient not willing for trial
3. Cases of uncontrolled diabetes, hypertension, tuberculosis, head injury, accidental cases, scurvy, purpura, pregnancy, leukemia, taking any anti

platelet drugs, ca of gums or any other associated chronic diseases.

Criteria For Diagnosis

On the basis of signs and symptoms

1. Odontalgia
2. Inflammation
3. Cavity formation
4. Tooth mobility
5. Halitosis

Symptomatic relief obtained by the treatment was assessed systematically after seven days of initial scoring, till the completion of treatment. Results were noted on the basis of high improvement / marked

improvement/ moderate improvement/ mild improvement/ no improvement and on the basis of clinical improvement.

Criteria For Overall Assessment

The total effect of the therapy was assessed considering the following criteria.

- High improvement - >75% relief in the signs and symptoms.
- Marked improvement - 50-75% relief in signs and symptoms.
- Mild improvement - < 50% relief in signs and symptoms.
- No improvement - no relief in signs and symptoms.

DRUG REVIEW

1. Rasnadi Guggulu^[10]

रासनामृतैरण्डसुराह विश्वं तुल्यंपुरेणाथा विमृद्य खादेत् ।

वातामयीकरणशिरोगदी च नाडीयुतश्चैवमगन्दरीच ॥ (Yogaratanagara, Karna rogadhikara)

Drug	Botanical name	Family	Part used
RASNA	<i>Pluchea lanceolata</i>	<i>Asteraceae</i>	Root
AMRUTHA	<i>Tinospora cordifolia</i>	<i>Menispermaceae</i>	Stem
ERANDA	<i>Ricinus communis</i>	<i>Euphorbiaceae</i>	Root
DEV DARU	<i>Cedrus deodar</i>	<i>Pinaceae</i>	Heart wood
SHUNTI	<i>Zingiber officinale</i>	<i>Zingiberaceae</i>	Rhizome
GUGGULU	<i>Commiphora mukul</i>	<i>Burseraceae</i>	Resin

Rasnadi Guggulu is mainly *Katu-Tikta Rasa*

Its *Gunas* being *laghu ruksha tikshana*

Its *vipaka* being *katu* and *madhura*

Properties being *tridosha samaka*

College and Hospital, Paprola and treated in single trial group.

Rasnadi Guggulu - 500 mg TID orally

Dose - 500mg TID

Method of preparation

1. Guggulu Shodhana^[11]

The first step of purification of *Guggulu* is removing the large visible particles manually. The smaller one remains intact, so they need a second step of purification. The cleaned *Guggulu* is to be taken in piece of cloth and made into loose bundle. The bundle is tied to the rod in *Dolayantra*, immersing it in the liquid (*Triphala kwatha*) within. On heating the pot on low fire, the *Guggulu* will become soft and melted. Then it will pass through the cotton cloth into the liquid. The smaller impurities will be left in the bundle. The process is continued till whole *Guggulu* is transferred to the liquid. The purified *Guggulu* is retained from the solution by evaporating the liquid.

2. Preparation of Rasnadi Guggulu^[12]

By *Anagni sidha* method, *Rasnadi Guggulu* is prepared. i.e, the fine powder of raw drugs is pounded well in a mortar and ground with purified *Guggulu*. Ghee should be added for *Guggulu Kalpana* whether it is advised or not. The *Vataka* rolled and dried well before storing.

Group dose and duration

After careful examination, 9 patients were selected from the OPD of *Shalakyta Tantra* of R.G.G.P.G Ayurvedic

Statistical Analysis

The information of demographic data was given in form of percentage. The scoring of criteria was analyzed statistically in terms of mean values of B.T. (Before treatment), A.T (After treatment), S.D(Standard deviation) and S.E (Standard error). The effect of therapy in this group was assessed by applying one sample 't' test for comparing the before treatment and after treatment scores of assessment criteria the results obtained were considered highly significant for p< 0.001, significant if p<0.050, and insignificant for p>0.050.

OBSERVATION

In this study maximum number of patient were in the age group of 16-30 years i.e. 50%. Equally from both male and female were included. Most of the patients were house wives i.e. 55.55%. Religion wise distribution revealed that out of 18 patients 77.77% were Hindu. Most of them were married and 44.44% were unmarried. Out of 18 patients 61.11% was uneducated, 44.44% was from poor family. Maximum patients were *Madhyama Koshta*(50%), 66.6% of patients were having *Alpa Nidra* and 44.45% have habit of mixed diet and 55.5% are pure vegetarians. 38.8% of patients had an addiction of tea and coffee and 33.3% had an addiction of tobacco and

27.7% had alcohol addiction. Among 18 patients, 50% were *Vata Pitta Prakrithi* and 50% of *Vata Kapha Prakrithi*. Most of them used brush for oral hygiene (83.3%). In the study, 61.1% of patients brushed once a day, 27.7% of patients brushed twice a day and 11.11% more than twice. Majority of patients, i.e 83.3% using tooth brush for cleansing their teeth, while a very few of them (11.1%) used tooth powder for cleansing and only 5.5% used some other methods for cleansing. Majority of patients i.e 61.1% were not using any aids while 38.9% patients were using mouthwash. maximum number of patients 61.11% have *Madhura rasa* dominance in their diet, 16.6 % of them having *Amla rasa* dominant, 11.11% patients were having *Lavana rasa* predominance, 5.55% used *Tikta Kashaya* predominant *rasa*. According to complaint wise distribution, all the patients (100%) had complaint of odontalgia, 83.33% with tooth discoloration, 44.4% with halitosis and 38.8% teeth mobility. Maximum 88.89% patients were having no mobility, 11.11% were observed with mobility. Hypersensitivity was present with 83.3% of the patients and 16.67 % of patient is not having hypersensitivity.

DISCUSSION

Rasnadi Guggulu provided 66.5% relief in odontalgia. 41.5% got relief in inflammation. Discoloration was reduced after treatment by 40%. Mobility reduced by 33.3% and halitosis by 51.2%.

Rasnadi Guggulu being mainly *Katu-Tikta Rasa*, it is *Krimighana*, *Shodhana*, *Kledopuyashoshana* and *Kaphapittashamaka*. Its *Gunas* being *Laghu*, *Ruksha*, *Tikshana*, it is *Kapha Shamaka* and *Kledoshoshaka*. Its *Virya* being *Ushna* it is *Kapha Vata- Shamaka*. Its *Vipaka* being *Katu* and *Madhura* normalizes vitiated *Kapha Vata* and *Pitta*. *Krimi danta* is mainly caused by vitiated *Vata* along with vitiated *Kapha* and *Pitta*.

CONCLUSION

Krimi Dant is described by *Acharya Sushruta* in *Nidana Sthana* mentioning *Krishna*, *Chidra*, and *Maharaja* as main symptoms of the disease. Keeping this in mind it can be correlated with Dental Caries, in which the demineralization of teeth happens. In present study *Rasnadi Guggulu* is taken as a drug of choice as it has *Katu-Tikta Rasa*, *Laghu Ruksha Tikshna Gunas*, *Katu* and *Madhura Vipaka* and is also *Tridosha Shamaka* which was also helpful in *Krimi Danta*. Overall result of drug which was on *Rasnadi Guggulu* revealed a good improvement in the symptoms.

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