

A CLINICAL STUDY ON EFFICACY OF *KASEESADI GUTI DHARANA* IN THE PAIN MANAGEMENT OF *KRIMIDANTA*

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Published online: 16 November 2016

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ABSTRACT

Dental caries is progressive destruction of tooth structure, leading to tooth ache. Tooth ache is the most common type of orofacial pain and when severe it is considered a dental emergency. Pain killers will be the first option to get rid of pain but use of these pain killers have many adverse effects and also its over prescription leads to kidney disorders, liver disorders etc., which finally may lead to death. Hence here an attempt was made to find out an alternate medicine which is effective, has no contraindications and with no side effects. This study was conducted to evaluate the efficacy of *Kaseesadi Gutti Dharana* in the pain management of *krimidanta* (Dental caries). An open clinical study was conducted in the outpatient Department of *Shalakyatastra*. Patient's written informed consent was taken before starting the treatment. Patients were selected using "Simple random sampling method. Twenty subjects of either sex suffering from toothache caused by *krimidanta* were included in the study. There was no exclusion for this study, because it was having only local action. All subjects were instructed regarding the study procedure and follow up visits. *Kasisadiguti* was administered to these patients for holding tightly on the affected teeth and advised to spit out the saliva till the tablet gets dissolved. Subjects were allowed to voluntarily withdraw from the study, if they experienced serious discomfort during the study. Subjects were evaluated clinically at entry and after 24 hours of administration of *kasisadiguti*. All the patients were followed up after 24 hours for presence or absence of symptoms. All the subjects were evaluated for subjective pain relief or no relief after using *guti*. Significant improvement was seen in subjective parameters after treatment with *kaseesadiguti*. No clinically significant adverse reactions were observed or reported. The results of the study showed that *kaseesadiguti* is effective and safe in the management of tooth ache caused by *krimidantha*.

Keywords: *kaseesadiguti*, *dharana*, *krimidantha*, dental caries, *dantashula*, *shulaprashamana*.

INTRODUCTION

Dental caries is public health problem in developing countries like India. In India the prevalence of dental caries is reported to be about 50-60% particularly in lower social economic status.

Worldwide, approximately 2.43 billion people (36% of the population) have dental caries in their permanent teeth. The World Health Organizations estimates that nearly all adults have dental caries at some point in life time. In baby teeth it affects about 620 million people or 9% of the population. They have become more common in both children and adults in recent years. The disease is most common in the developed world and less

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common in the developing world due to greater simple sugar consumption.^[1]

Majority of the population would have suffered with dental pain at some time in their life. Tooth ache is the most common type of or facial pain and when severe it is considered a dental emergency, since there may be significant impact on sleep, eating and other daily activities.

Dental caries is progressive destruction of enamel, dentine and cementum, initiated by microbial activity of the tooth surface. Symptoms may include pain and difficulty with eating. It is one of the major problems in dentistry and it is one of the most common causes for people to visit clinics.

Treatment for this in modern includes dental restoration (RCT / filling) and tooth extraction, both these treatments cannot be done if there is dental pain, so there is need for prescription of pain killers. Studies have proved the side effects of pain killers like Anxiety, Trouble sleeping, Liver disease, Nausea, Hearing loss, Difficulty breathing, Weakness, Kidney disease^[2]etc.

On the basis of clinical features dental caries can be compared with *krimidanta* which is one among eight diseases of tooth. *Krimidanta* is *vataja* variety of *dantaroga*, its *lakshanas* include *krishnachidra* (black coloured pit), *chala* (mobile tooth), *samramba* (inflammation) and *maharaja* (severe pain). In the management of *krimidantakrimighna* (anti-helminthic), *vataigna* (which relieves *vata*) and *ushnaveeryadravyas* (drugs with hot potency) are to be used which can relieve the toothache and discolouration.^[3,4]

This dental caries which is considered as a disease of poverty has no well-defined treatment for instant pain relief. There is very minimal study on pain killers for dental pain in Ayurveda, which made to initiate this study.

AIM

The present study was planned to evaluate the efficacy of *KaseesadiGuti*^[5] *Dharana* in the pain management of *krimidanta*.

MATERIALS AND METHODS

Study design

An open clinical study was conducted in the outpatient Department of *Shalakyta Tantra*, Government Ayurveda Medical College, Bengaluru between December 2014 and April 2015. Patient's written

informed consent was taken before starting the treatment. Patients were selected using "Simple random sampling method.

ASSESSMENT CRITERIAS

Subjective criteria:

1. *Dantashoola* (pain in tooth)
2. *Dantaharsha* (sensitivity of tooth)
3. *Dourgandya* (halitosis)

Inclusion criteria

Twenty subjects of either sex suffering from toothache caused by *krimidanta* were included in the study.

Exclusion criteria

There were no exclusion for this study, because it was having only local action. Even patients with systemic illness were not excluded.

Study procedure

Twenty eligible patients suffering from toothache caused by *krimidanta* were included in the study. All subjects were instructed regarding the study procedure and follow up visits and information regarding the contact person during emergency. Detailed history was taken based on onset of dental caries, pain duration and attacks. Clinical examination of tooth, stage of caries. Subjective grading was given for analysing severity of pain.

Preparation of *kasisadiguti*,

Four drugs namely *Kasisa*, *Devadaru*, *Spatika* and *Hingu* (Fig 01) were taken in equal quantity and powdered finely

Shodana of *kasisa* – it was done by giving *Swedana* with *brungarajaswarasa* and powdered finely.

Shodana of *spatika* – it was soaked in *kanji* for 3days and powdered finely.

Shodana of *hingu* – it was fried with *gritha* and powdered finely.

Devadaru was finely powdered, along with this *shodhitha*, *kasisa*, *spatika* and *hingu* (Fig 02) were taken in equal quantity, to this sufficient amount of water was added and mixed well. Tablets were prepared out of this mixture, size of the tablets was prepared in such a way that it can be fitted in the cavity and it was dried in shade. (Fig 03)

Procedure

Kasisadiguti was administered to these patients for holding tightly on the affected teeth and advised to

spit out the saliva till the tablet gets dissolved. Each tablet took a time of 10 – 15 minutes for dissolving completely. One *guti* was given to the patient whenever patient had tooth ache.

Patient was advised not to consume anything internally for about half an hour, as it may drain out the drug action and decrease the effectiveness.

Subjects were allowed to voluntarily withdraw from the study, if they experienced serious discomfort during the study.

Follow-up and monitoring

Subjects were evaluated clinically at entry and after 24 hours of administration of *kasisadiguti*. All the patients were followed up after 24 hours. Clinical assessment was made in

grading for the severity of the disease and for the clinical improvement of individual subjective grading of 5 variables is given along with clinical proforma especially designed for the study on *krimidanta*. The severity of each variable ranging from Mild – 1, Moderate – 2, Severe – 3, extremely Severe – 4.

Results

Statically tests used:

Average is found using mean along with Standard deviation.

For pre-post comparison Paired t test is used.

Table No. 01. Effect on Dantashoola

Symptom	BT mean	AT mean	MD	%	SD	SE	T	P	Significance
Dantashoola	2.7	0.6	2.1	78	0.552	0.123	16.997	0.0001	HS

Pre and post comparison with Paired t test on *Dantashoola* showed that the mean score which was 2.7 before the treatment, was reduced to 0.6 after

the treatment with, SD-0.552, SE-0.123, T-16.997, P<0.0001 which was Highly Significant. Relief from *Dantashoola* is 78%.

Table No - 02. Effect on Dantaharsha

Symptom	BT mean	AT mean	MD	%	SD	SE	T	P	Significance
Dantaharsha	0.9	0.3	0.6	67	0.820	0.183	8.717	0.0001	HS

Pre and post comparison with Paired t test on *Dantaharsha* showed that the mean score which was 0.9 before the treatment, was reduced to 0.3 after

the treatment with, SD-0.830, SE-0.183, T-8.717, P<0.0001 which was Highly Significant. Relief from *Dantaharsha* is 67%.

Table No - 03. Effect on Dourgandya

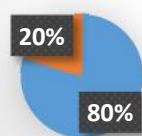
Symptom	BT mean	AT mean	MD	%	SD	SE	T	P	Significance
Dourgandya	1.7	0.1	1.6	94	0.820	0.183	8.717	0.0001	HS

Pre and post comparison with Paired t test on *Dourgandya* showed that the mean score which was 1.7 before the treatment, was reduced to 0.1

after the treatment with SD-0.820, SE-0.183, T-8.717, P<0.0001 which was Highly Significant. Relief from *Dourgandya* is 94%.

Chart with Table No.4 Showing the Recurrences in 20 Patients

Follow up



- 16 patients with no recurrence of pain in 24 hours
- 4 patients with recurrence of pain within 24 hours

Out of 20 patients 16 patients showed no recurrence of pain in 24 hours of follow up, 4 patients showed recurrence of pain within 24 hours of follow up.

DISCUSSION

This dental caries which is considered as a disease of poverty has no well-defined treatment for instant pain relief. Modern treatment has many side effects with the use of pain killers. So for instant effective management *kasisadiguti* was tried in this study.

The principal herbal ingredients of *kasisadiguti* such as *kasisa*, *hingu*, *spatika* and *devadaru* have special actions which helped in relieving pain.

Kasisa has *kasaya rasa*, *ushnaveerya* and *katuvipaka*, which acts as *krimighna*, *rakthasandhana* and *shothahara*. It also has ferohexahydrate, it is rich in vit B12 and B9 helps in wound healing and cleansing.

Hingu has *katu rasa*, *ushnaveerya*, *tikshnaguna* and *katuvipaka*, which act as *shula-prashamana*, *krimighna*, *chedana*, *shothahara* and *vatakaphaprashamana*. Umbelliferone is an active ingredient which acts as sedative.

Spatika has *katu* and *kashaya rasa*, *ushnaveerya*, *tikshnaguna* and *katuvipaka* which as *krimighna*, *shothahara* and *vata pitta shamaka*. Potassium and aluminium sulphate present in *Spatika* increases the efficacy of drug and stops bleeding.

Devadaru having *katu* and *tikta rasa*, *ushnaveerya*, *laghu* and *sigdhaguna* and *katuvipaka* which act as *shothahara*, *krimighna*, *vedanashtapana* and *lek-hana*. It has Eugenol as one of its chemical composition which acts as analgesic.

The synergistic actions of all these drugs help in relieving pain caused by *krimidanta*.

CONCLUSION

This clinical study clearly shows that *kasisadiguti* is effective in managing the pain caused by *krimidanta*. In majority of cases it was found that halitosis and hypersensitivity towards hot and cold items was also cured. There were no adverse reactions either observed or reported during the study period. Therefore, it may be concluded that *kasisadiguti* is efficient in the management of pain caused by *krimidantha*. It was quite difficult to administer it to children below 12years because it was not so palatable.

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Fig 01



Fig 02



Fig 03



How to cite this URL: Gutti Dharana In The Pain Management Of Krimidanta. International Ayurvedic medical Journal {online} 2016 {cited October - November, 2016} Available from: http://www.iamj.in/posts/images/upload/21_25.pdf