

AN OBSERVATIONAL STUDY ON EFFICACY OF JATIPATRADI CHOORNA WITH GHRUTA PRATISARANA IN THE MANAGEMENT OF DANTA HARSHA

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ABSTRACT

Dantaharsha is one of the most common disorders. It can be compared with dental hypersensitivity. Several people all around the world experience this painful condition and is highly prevalent in the adult populations, with prevalence ranging from 4 – 74% and it varies from place to place attributed to their local oral practice. Many remedies are prescribed in modern medicine for the treatment of dentine hypersensitivity like use of fluorides, oxalates etc in the form of paste, lasers etc. But these methods are quite expensive and often recurrence of the symptoms is seen. Long use of these are said to cause allergic reaction to gums. So it becomes relevant to develop an easy, economic, non-toxic and approachable modality as a treatment measure in hypersensitivity. The present study was conducted on 20 patients of Dantaharsha with Jatipatradi choorna with ghruta pratisarana for 14 days. Observation was done before and after the treatment for 30 days. The observation revealed that 13 patients showed good response, 6 patients showed moderate response and 1 patients showed poor response.

KEYWORDS: Dantaharsha, Pratisarana, dental hypersensitivity.

INTRODUCTION

Good oral hygiene is not just important, its probably even more important than we think. Bad oral hygiene can kill us. Over the past decade, researchers have discovered that bad oral hygiene can trigger immune system reaction that can lead to heart attacks and strokes¹. The CDC estimates that more than 90% of adults over the age of 40 have tooth decay due to bad oral hygiene. In Ayurveda Dantaswathya was explained very clearly. If oral hygiene is not maintained it will lead to various dental illness. Dantaharsha is one among the eight Dantarogas mentioned by almost all

Ayurveda Acharyas. Clinically, if teeth do not tolerate cold or heat or any other kind of touch, it is known as Dantaharsha².

The line of treatment as told in Ayurveda classics is Warm gargles of fats or traivrit ghrta, or of decoctions of vata alleviating plants control dantaharsha (tingling of teeth).smoking, snuff, unctuous food, meat-soup, gruel made with meat-soup, milk, supernatant fatty layer of milk, ghee(extracted of milk) and shirobasti, are benifitial and also whatever is vata alleviating³.

The disease Danta harsha can be compared to dentine hypersensitivity. Clinical experience suggests that Dentine Hypersensitivity is relatively, a common cause of pain in the teeth. Despite this, the condition has been described as “An enigma, being frequently encountered, but ill understood”. Recent reports place the prevalence of dental hypersensitivity in our country at 40%-45% (Acc. JIOH 2013)⁴.

The mechanism of dentine sensitivity is explained by various theories like neural theory, Odontoblastic Transduction theory, Hydrodynamic theory. Currently most investigators accept that dentin sensitivity is due to the Hydrodynamic fluid shift, which occur across exposed dentin with open tubules. This rapid fluid movement intern activates the mechanoreceptors nerves of A-group in the pulp. Dentin hypersensitivity can be managed by two basic mechanisms⁵.

1. Desensitization by occluding the dentinal tubules
2. Desensitization by blocking the pulpal sensory nerves.

Many remedies are prescribed in modern medicine for the treatment of dentine hypersensitivity like use of smear layer over expose dentin , Use of topical agents to occlude the dentinal tubules (Calcium hydroxide, Silver nitrate, fluorides, oxalites) etc in the form of paste, lasers etc. But these methods are quite expensive and often recurrence of the symptoms is seen. Long use of these are said to cause allergic reaction to gums. So it becomes relevant to

Showing drugs and their properties⁷:

Sl.no	Drug	Rasa	Guna	Part used	Botanical name	Doshagnata	Actions
1	Jatipatra	Tikta, Kashaya	Laghu, Snigdha,	Root, leaf	Jasmium grandifoliu	Tridoshaghna	Vranaropaka, Dantarogagn

develop an easy, economic, nontoxic and approachable modality as a treatment measure in hypersensitivity. Hence, this study of Jatipatradi churna with ghruta pratisarana.

AIM AND OBJECTIVE

To evaluate the efficacy of Jatipatradi choorna with ghruta pratisarana in the management of Dantaharsha.

MATERIALS AND METHODS

A total of 20 patients having the classical features of Dantaharsha were selected irrespective of gender, occupation, religion and social status in shalakya tantra OPD and IPD of Shri Jayachamarajendra Institute of Indian Medicine and Hospital Bengaluru.

All raw drugs required for the study Jatipatra, Purnava, Pippali, Tila, Vacha, Musta, Sahachara, Ajamoda, Shunti and Haritaki procured from Amruth Keasri Pharmacy and the authenticity of these drugs was approved by Department of Dravyaguna, GAMC, Bengaluru. Go Ghruta was prepared in home.

The drugs which are taken for study were cleaned and dried. 100gms of each were taken and powdered separately in khalva yantra, sieved through a clean kora cloth. Then all these powders were put in the khalva yantra and thoroughly mixed until they formed a homogenous mixture⁶. It was then stored in a clean and dry porcelain container with air tight lid and was used along with ghruta for pratisarana on patients whenever required.

			Mrudu		m		a, Vishaghna
2	Punarnava	Madhura, Tikta, kashaya,	Laghu, Snigdha	Whole plant	Boerhavia diffusa	VataKapha Hara	Shothahara,
3	Pippali	Katu,	Laghu, Snigdha, Tikshna	Fruit	Piper longam	Vatakapha Hara	Vrushya, Rasayana.
4	Tila	Madhura, Kashaya, Tikta	Guru, Snigdha	Beeja	Sesamum indicum	Vatahara	Dantarogahara, Vranaropana, Balya
5	Vacha	Katu, Tikta	Laghu, Tikshna	Rhizome	Acorus calamus	Vatakapha Hara	Shulaghna, krimighna.
6	Musta	Tikta, Katu, Kashaya	Lagu, Ruksha,,	Tubers	Cyperus rotundus	Vatakapha hara	Grahi, Krimighna, Vranaropaka, Balya.
7	Sahachara	Tikta, Madhura	Laghu, Snigdha	Root, leaves	Barleria prionitis	Vatakapha Hara	Vishaghna, vedanasthapanana
8	Ajamoda	Katu, Tikta	Laghu, Ruksha	Fruits	Apium graveolens	Kaphavata hara	Sholahara, Krimighna
9	Shunti	Katu	Guru, Ruksha, Tikshna	Rhizome	Zinziber officinale	VataKaphahara	Vranaroana, Balya, Shothahara
10	Haritaki	Kashaya pradhana lavana varjita shadrassa	Laghu, ruksha	Fruit	Terminalia chebula	Tridoshahara	Sholahara, Krimighna,
11	Goghrita	Madhura	Guru, snigdha	Ghruta	Butyrum deparatu	Vatapitta shamaka	Vranaropaka, Yogavahi

INCLUSION CRITERIA:

Classical features of Danta harsha² namely:

- Intolerance of teeth to breeze
- Intolerance to hot, cold or sour food substances
- Patients in the age group of 13-60 years.

EXCLUSION CRITERIA:

1. Patients in the age group below 13 and above 60.
2. Traumatic conditions of Tooth.

3. Acute and malignant conditions of the dental and oral cavity.

4. Conditions where brushing is contraindicated.

5. Patients with orthodontic appliances.

Study design: ½ gms of jatipatradi choorna with ghruta (1/2gm) pratisarana, twice a day for 14 days and follow-up done after 30 days.

INVESTIGATION:

Patients were subjected to routine investigation of blood, urine to exclude any other systemic disorders.

INTERVENTION:

Pratisarana was carried out with Jatipatradi choorna and ghruta (1/2gm) for about 10 minutes daily and advised to do same in the evening for 14 days.

Duration:

Duration of study was 30 days, during which patients were advised for maintain proper oral hygiene, quitting smoking and tobacco chewing.

Assessment criteria

All the patients were observed periodically for 15 days of treatment. The effect of treatment was observed by clinical observation based on subjective and objective parameters.

Subjective parameters

The symptoms (sensitive to cold, hot and sour) which are subjective have been objectively assessed by VAS (Visual Analogue Scale)

Objective parameters

Cold air blast test.

Tactile test

Gutta percha test

Assessment of results:

Good response – Above 75% relief in overall features.

Moderate response – 50%-75% relief in overall features.

Mild response – 25%-49% relief in overall features.

Poor response – Below 25% relief in overall features.

OBSERVATIONS AND RESULTS

In the present study 2(10%) patients had habit of tobacco and betel chewing, 3(15%)

patients were having habit of smoking and 15(75%) patients did not have any such habits. **chronicity** -13(65%) patients were having the chronicity upto 6 months, 4(20%) patients were having the chronicity between above 6 months- below 1 years, and 3(15%) patients were having the chronicity above 1 years.

Incidence- none of the patients had incidence of symptoms in incisors and canines, 1(5%) patients had incidence of symptoms in premolars, 7(35%) patients had incidence of symptoms in molars, and 12 (60%) patients had incidence of symptoms in combination of teeth.

pain -1(5%) patients were not having pain, 8(40%) patients were having mild pain, 9(45%) patients were having moderate pain, and 2 (10%) patients were having severe pain.

2(10%) patients were having hypersensitivity to cold, 2(10%) patients were having mild sensitivity to cold, and 13 (65%) patients were having moderate sensitivity to cold, 3(15%) patients were having severe sensitivity to cold.

7(35%) patients were having no hypersensitivity to hot, 1(5%) of patients were having mild hypersensitivity to hot, 10(50%) of patients were having moderate hypersensitivity to hot, 2(10%) patients were having severe hypersensitivity to hot.

1(5%) patients were not responding for cold air blast test, 1(5%) patients were giving mild response to cold air blast test, 14(70%) patients were giving moderate response to cold air blast test, 4(20%) patients were giving severe response to cold air blast test.

7(35%) patients were giving mild response to gutta percha test, 10(50%) patients were

giving moderate response to gutta percha test, and 3 (15%) patients were giving severe response to gutta percha test.

3(15%) patients were showing mild response to tactile test, 15(75%) patients

were showing moderate response to tactile test, 2(10%) patients were showing severe response to tactile test.

Table showing effect of treatment in individual parameters

Parameter	Mean		Mean Diff(d)	diff%(d)	SD	SE	t value df=19	P Value	REM
	BT	AT							
Pain	1.6	0.2	1.4	87.5	0.75393	0.1685	8.3043	<0.001	HS
H.S to cold	1.85	0.55	1.3	70.2702	0.73269	0.1638	7.9347	<0.001	HS
H.S. to hot	1.35	0.2	1.15	85.1851	0.98808	0.2209	5.2049	<0.001	HS
H.S.to sour	0.8	0.1	0.7	87.5	0.86450	0.1933	3.6211	0.0018	HS
Gutta percha test	1.8	0.4	1.4	77.7777	0.75393	0.1685	8.3043	<0.001	HS
Cold air blast Test	1.95	0.8	1.15	58.9743	0.6708	0.15	7.6666	<0.001	HS
Tactile test	1.95	0.55	1.4	71.7948	0.59824	0.1337	10.4653	<0.001	HS

1. Analysis of the Pain shows that mean score before treatment was 1.6 which reduced to 0.2 after treatment, there was 87.5% of improvement in the symptom, with t value 8.3043 the result was statistically highly significant (P<0.0001).

2. Analysis of the Hypersensitive to cold shows that, mean score before treatment was 1.85 which reduced to 0.55, there was 70.27% of improvement in the symptom, with t value 7.9347, the result was statistically highly significant (P<0.0001).

3. Analysis of the Hypersensitive to hot shows that, mean score before treatment was 1.35 which reduced to 0.2 after treatment, there was 85.18% improvement in the symptom, with t value 5.2049, the result was statistically highly significant (P<0.0001).

4. Analysis of the Hypersensitive to sour shows that, mean score before treatment was 0.8 which reduced to 0.1, there was 87.5% of improvement in the symptom, with t value 3.6211 the result was statistically highly significant(P<0.0018)

5. Analysis of the Gutta percha test shows that mean score before treatment was 1.8 which reduced to 0.4 after treatment, there was 77.77% of improvement in the symptom, with t value 8.3043 the result was statistically highly significant (p<0.0001)

6. Analysis of the Cold air blast test shows that mean score before treatment was 1.95 which reduced to 0.8, there was 58.97% improvement in the symptom , with t value 7.6666 the result was statistically highly significant(P<0.0001)

7. Analysis of the Tactile test shows that mean score before treatment was 1.95 which reduced to 0.55, there was 71.79% improvement in the symptom, with t value 10.4656 the result was statistically highly significant ($P < 0.0001$)

Assessment of result in follow up period:

After the follow up period of 1 month, following results were obtained:

20% showed recurrence of dentine hypersensitivity and 80% showed no recurrence.

Overall assessment of result

a) At the end of treatment:

65% patients showed good response, 30% patients showed moderate response and 5% patients showed poor response.

DISCUSSION

Spreading and gentle rubbing of medicaments with finger is 'Pratisarana'. Gentle rubbing over the gums and teeth with the medicine exerts a cleaning effect. It produces mechanical pressure over the gums and teeth. By the effect of this pressure, the vascularity of absorbing surface increases and also abraded surfaces readily adsorb the drugs.

Dantaharsha is mainly caused due to the vitiation of vata. Most of the drugs in my study like Jatipatra, Punrnava, Pippali, Tila, Vacha, Musta, Sahachara, Ajamoda, Shunti and Haritaki have tikta, kashaya and madhura rasas, snigdha guna which helps in pacifying pitta and vata. Snigdha guna, also forms a coating over the tooth which might help in occlusion of dentinal tubules. Astringent properties tighten the tissues, Tikta rasa helps in rakta and mukha shodhana thus reducing the other oral disorders.

Some of the constituents like tila of the test product have shown anticaries effect in previous studies. Anti-inflammatory action of the drugs, which finds a major part in this study also might have helped in relieving the pain and thereby the hypersensitivity.

The symptoms such as pain, hypersensitive to cold, hot and sour all the attributed symptoms are markedly reduced and showed statically highly significant at $p < 0.001$. The results were encouraging in majority of the patients.

CONCLUSION

The study was aimed to evaluate the efficacy of Jatipatradi choorna with ghrutha pratisarana in the management of Dantaharsha. The following conclusions are drawn after considering the clinical aspects and theoretical facts. Danta harsha can be correlated to dental hypersensitivity based on the clinical features mentioned in classics and also the line of treatment explained. The present study was restricted to 20 patients only and treatment duration was only for 14 days with follow up period of 1 month. In this study majority of the patient showed good result. From the observation made it can be inferred that this particular study can be conducted on more number of patients for correct evaluation.

Thus early diagnosis and adequate treatment of Dantaharsha will definitely relieve the patients from the disease without leading to much complications like tooth loss. Owing to the progressive nature of the disease it is recommended to have prolonged duration of treatment and follow up.

Awareness should be brought about in the society at the early stage of life regarding oral hygiene methods like dantadhavana,

kavala, gandusha, avoiding intake of acidic food and drinks that aggravate acidity in the oral cavity leading for the primary prevention of oral and dental disorders.

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