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A CLINICAL STUDY ON THE MANAGEMENT OF *DANTAVESHTA* (PYORRHOEA ALVEOLARIS) WITH *VIDANGADI GUGGULU*

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ABSTRACT

Dantaveshta is mentioned under *Dantamulagata Rogas* by *Acharya Susruta* . It occurs due vitiated *Kapha* and *Rakta Dushti* that result in *Puyastrava* and *Chaladanta.* Periodontitis or pyorrhea alveolaris is the inflammation of the periodontium of the tooth that leads to loosening of teeth. The present study is done in single group of 10 patients of *Dantaveshta*. Patients were treated with *Vidangadi Guggulu* .The signs and symptoms were studied before and after treatment. Results of the study indicates significance of this drug as it gives 49.36% relief in the signs and symptoms of the patients and 80% of the patients were moderately improved and 20% of the patients were mildly improved.

KEYWORDS: *Dantaveshta, Dantamulagata Rogas, Vidangadi Guggulu,*

INTRODUCTION

Oral diseases are perhaps, the most widespread of all diseases prevalent in the world. No population is free from caries and periodontal diseases – the most common of all such diseases and affecting almost 80% of the population. This results in tremendous economic and social burdens both to the individual and society.[1] *Shalakya Tantra*, one amongst the eight specialities of *Ayurveda,* deals with the precious Supra clavicle organs, Head and Neck, the diseases affecting then and their management.[2] In *Nidana Sthana, Susruta* has described 65 *Mukharogas,*[3] according to the seven sub sites i.e. *Aushţha, Dantamula, Danta, Jihva, Talu, Kanţha And Sarvaņi,*[4] iii The '*Danta Rogas*', are responsible for tooth loss. *Acharya Susruta described* 15 *Dantamulagata Rogas,*[5] under which he has separately mentioned Dantaveshta,[6] which occur due to vitiated *Rakta* accumulated in *Dantaveshta* and gives rise to *Raktamishrita Puyastrava* (bloody and purulent discharge) from gums that leads to *Chaladanta,*[7] (loose of teeth). The disease *Dantaveshta* can be correlated with Pyorrhoea Alveolaris which is presently known as Periodontitis. Poor oral hygiene is the most common cause of periodontal disease. Periodontitis is defined as "an inflammatory disease of the supporting tissues of the teeth caused by specific microorganisms or groups of specific microorganisms.[8] The clinical feature that distinguishes periodontitis from gingivitis is the presence of clinically detectable attachment loss as a result of inflammatory destruction of the periodontal ligament and alveolar bone.[9]

Classification Of Periodontitis[10]

Classification	Forms of Periodontitis	Characteristics
AAP World Workshop in Clinical Periodontics, 1989	**Adult periodontitis**	Age of onset >35 years Slow rate of disease progression No defects in host defenses
	Early onset periodontitis	Age of onset <35 years Rapid rate of disease progression Defects in host defenses Associated with specific microflora.
	Periodontitis associated with systemic disease	Periodontitis associated with systemic disease. Systemic diseases that predispose to rapid rates of periodontitis like diabetes, Down syndrome, HIV infection, Papillon–Lefevre syndrome.
	Necrotizing ulcerative periodontitis	Similar to acute necrotizing ulcerative gingivitis but with associated clinical attachment loss.
	Refractory periodontitis	Recurrent periodontitis that does not respond to treatment.

The causes of continued loss of clinical attachment and alveolar bone after periodontal therapy are currently poorly defined and apply to many disease entities.[11]

The management of Periodontitis may not be satisfactory because of mechanical removal of causes by scaling, or use of chemicals i.e. mouth wash, irrigation, etc. which are costly as well as time consuming and last treatment of choice is surgery, which is not completely safe in all cases. Keeping in mind the above concepts, a study entitled; "A clinical study on the management of *Dantaveshta* (Pyorrhoea Alveolaris) with *Vidangadi Guggulu,*[12]" for oral intake has been selected for present study. *Vidangadi Guggulu* has been describe in *Yogratanakar*.

AIMS AND OBJECTIVES

1. To advise preventive measures to check the occurrence of disease in individuals.
2. To study the effect of drug on the disease.
3. To prove the effectiveness of *Vidangadi Guggulu* in the patients of *Dantaveshta.*
4. To explore the aeitiopathogenesis of disease on the basis of classical texts and modern literature.
5. To study the side effects of the *Vidangadi Guggulu* if any.

MATERIAL AND METHOD

Selection of Patients
The clinical study was conducted on outdoor patients attending dental OPD of *Shalakya Tantra* Department of R.G.G.P.G.Ayu. College & Hosp. Paprola. Uncomplicated patients with signs and symptoms of *Dantaveshta* of age group between 20-60years were selected irrespective of any caste, creed, race, religion etc. fulfilling the criteria of selection as eligible for study.

The selection of patients will be applied by random sampling method. Patients were diagnosed on the basis of signs and symptoms of *Dantaveshta* (Pyorrhoea Alveolaris) acc to ayurvedic and modern sciences.

Out of registered ten patients, ten followed up for the total trial period.

A special proforma was prepared incorporating all the sign symptoms based on both Ayurvedic as well as modern description.

Inclusion Criteria
i. Patients presenting with signs and symptoms of *Dantaveshta* (Pyorrhoea Alveolaris).
ii. Patients with age group between 20-60 yrs.

Exclusion Criteria
i. Patients below 20 yrs of age.
ii. Pateints not willing for trial.
iii. Cases of Uncontrolled Diabetes, Hypertension, Tuberculosis, Head Injury, Accidental Cases, Scurvy, Purpura, Leukemia, Taking Anti-Platelet Drugs, drugs causing gingival enlargement (e.g Antiepileptic Drugs), Ca of gums or any other associated chronic disease.

Assessment Criteria
The patients were diagnosed on the basis of presence and absence of following signs and symptoms of *Dantaveshta* (Pyorrhoea Aveolaris) before and after treatment:
1. *Puyasrava*   Pus Discharge
2. *Raktasrava*   Bleeding Gums

3.	*Chaladanta*	Tooth Mobility
4.	*Daurgandhaya*	Halitosis
5.	*Krishanata*	Discoloration
6.	*Vedana*	Pain
7.	*Daha*	Burning Sensation
8.	*Shotha*	Inflammation
9.	*Dantaharsha*	Hypersensitivity
10.	*Shriyamana Dantamamsa*	Gingival Recession

Symptomatic relief obtained by the treatment given was assessed periodically after seven days of initial scoring, till the completion of treatment. Results were noted on the basis of cured / markedly improved / moderately improved/slightly improved/unchanged and on the basis of clinical improvement.

Criteria For Over All Assessment
The total effect of the therapy was assessed considering the following criteria.

Cured
100% relief in signs and symptoms.

Markedly Improvement
>75% relief in the signs & symptoms.

Moderately Improvement
50-75% relief in the signs &symptoms

Mild Improvement
25-50% relief in the signs & symptoms.

Unimproved
<25% relief in the signs & symptoms.

Drug Review
Group I
Vidangadi Guggulu
Ingredients of *Vidangadi Guggulu*
विडङ्गत्रिफलाच्योषचूर्णं गुग्गुलुना समम्।

सर्पिषा वटकान् कुर्यात् खादेद्वा हितभोजनः॥

दुष्टव्रणापचीमेहकुष्ठनाडीविशोधनान्।

(यो.र.व्रणशोधनरोपणविधिः)

Vidangadi Guggulu is Katu Rasa
Laghu Guna
Ushna Veerya
Madhura Vipaka
Kaphavatashamaka properties

Method of preparation
***Guggulu Shodhana*[13]**
Firstly *Shodhana* of *Guggulu* was done in *Trifala Kwatha,*[14] by *Dola Yantara Vidhi*. The mass was dried in tray dryer at 50 °C and pounded with a pestle in a stone mortar. Well defined ingredients were taken in equal quantity and fine powder was prepared separately of each ingredient except *Guggulu*. Fine powder of all

the contents were mixed properly with the purified *Guggulu* of weight equal to the combined weight of all the ingredients along with *Ghrita*. And then *Vati* of 500mg were prepared.

Group, Dose and Duration
After careful examination, 10 patients were selected from the OPD of *Shalakya Tantra* of R. G. G. P. G. A.C. Hospital, Paprola and treated in single trial group.
Vidangadi Guggulu	-	Orally
Dose	-	500mg B.D.
Time	-	Morning and Evening

Statistical Analysis
The information of demographic data was given in form of percentage. The scoring of criteria of assessment was analysed 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 Group I 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 for $p < 0.050$ and insignificant for $p > 0.050$.

OBSERVATION
In present study, 40% of the patients were of age group 40-50 yrs and 50-60 yrs. Maximum patients were females .i.e. 90% and only 10 % patients were males, maximum number of patients i.e. 90% were married,. 60% of the patients were Hindus .Maximum number of patients were housewives followed by labourers and serviceman. 40% of the patients were middle class followed by lower class,60% of the patients were non-vegetarian followed by vegetarian. 70% patients were having addiction to tobacco while 20% patients were addicted to alcohol , 50% were of *Pitta-Kaphja Prakriti* followed by *Vata-Kaphaja Prakriti* ,70 % of the patients were of *Mandagni* , followed by *Samagni* (20%) and *Vishama Agni* (10%). Maximum no. of the patients were uneducated (60%) followed by patients educated upto matric. 80% of the patients were of *Madhyama Koshta* followed by *Mridu Koshta* (20%). Maximum no of the patients is having *Atinindra* and *Alpanindra* .i.e. 40 % each . 80% of the patients maintain their oral hygiene with brush. Maximum number of patients 70% were doing *Danta-Dhawana* only in the morning while 20% were doing *Danta-Dhawana* twice a day and only 10% were doing more than two times in a day. 80% of the patients were using tooth paste while 10% were using tooth powder or other material. Most of the patients i.e. 60% were having *Madhyam Abhyavaharan Shakti* and 40% were having *Avara Abhyavaharan Shakti*. Similarly maximum number of patients i.e. 50% were having *Avara Jaran Shakti*, whereas 30% were of *Madhyam Jaran Shakti*. 70% were taking *Madhura Rasa* . Altered colour of the gingiva was found in 30% of the patients. Altered contour was found in 80% of the patients. Recession of the CE junction was found in 70% of the

patients. Maximum 50% of the patients were observed with exposure of the root upto cervical 1/3 while 10% of the patients were observed upto middle 1/3. Maximum patients i.e. 80% of the patients had soft consistency. In surface texture (stippling) was absent in 70% of the patients. Bleeding on palpation was present in 100% of the patients. Adequacy of attached gingival was found in 100% of the patients.

100% patients were present with the complaints of *Raktastrava, Daurgandhaya* and *Shotha*. 70% of the patients complaint of *Vedna*. *Dantaharsha* was present in 50% of the patients. 60% of the patients were having *Puyastrava* and *Sheeryamana Dantamamsa. Chaladanta* was observed in 50% of the patients. *Daha* and *Krishnata* was present in 30% of the patients.

Effect of therapy
Effect of Therapy On Individual Criteria In Group I
The efficacy of *Vidangadi Guggulu (orally)*was adjudged in 10 patients on various parameters of assessment criteria and results were derived after executing statistical analysis.
1. *Raktastrava*
The percentage of relief was 53.33% which was highly significant statistically at the level of $P<0.001$.

2. *Puyastrava*
The percentage of relief was 65.21% which is highly significant at the level $P<0.001$.

3. *Chaladanta*
The percentage of relief was 50% which is significant at the level $P<0.050$.

4. *Daurgandhya*
The percentage of relief was 50% which was significant statistically at the level of $P<0.050$.

5. *Krishnata*
The percentage of relief was 50% which was significant statistically at the level of $P<0.050$.

6. *Vedna*
The percentage of relief was 53% which is highly significant at the level $P<0.001$.

7. *Shotha*
The percentage of relief was 83.33% which is highly significant at the level $P<0.001$.

8. *Daha*
The percentage of relief was 37.50% which was insignificant statistically at the level of $P>0.050$.

9. *Dantaharsha*
The percentage of relief was 57.14% which is significant at the level $P<0.050$.

10. *Sheeryamana Dantamamsa*
The percentage of relief was 20% which is insignificant at the level $P>0.050$.

Overall result of *Vidangadi Guggulu*
Overall result of Group I, which was on *Vidangadi Guggulu* revealed that percentage relief was 49.36% and 80% of the patients were moderately improved and 20% of the patients were mildly improved.

DISCUSSION
Specifically *Dantmulagata Roga* i.e. *Danta Veshta* is mentioned by some *Acharyas*. *Acharya Charaka* has mentioned four types of *Mukharogas*[15] but particularly *Dantamulgata Rogas* is not mentioned anywhere**.** *Acharya Charaka* and *Vagbhatta* has not specified *Danta Veshta* as a disease. *Acharya Susruta* has described *Dantveshta* as separate disease under *Dantmulagata Rogas* of *Mukharogas*. In *Dantveshta* he has used the term *Puyastrava* and *Chala Danta* which is the main symptom of the disease and it self symbolizes that periodontal structure has been hamperd that much that it first leads to pus discharge and at last loosening of teeth. So *Dantaveshta* is compared with Pyorrhoea Alveolaris. The disease is mainly caused by the vitiated *Rakta* through *Dushti* of *Kapha*. The pathological events of *Dantaveshta* begin with the increment of *Kapha Doshas* that combines with *Dushit Rakta* at their respective sites.

Formulation is taken from *Yogratnakara* from chapter *Vranashodhana Ropana Vidhi*. It is mainly *Katu* (77.77%), *Kshaya* (44.44%) *Rasa, Laghu* (77.77%), *Ruksha* (44.44%) *Guna, Ushana* (66.66%) *Veerya, Madhura* (77.77%) *Vipaka* . it is mainly *Kapha Vata Shamaka*. These all properties combinely shows *Lekhna, Ropana,Karshanan Amapachan* properties. So by *Kapha Shamaka* and *Karshana* Properties it will reduce the *drava guna* of *Kapha* and at reduces pus discharge in *Danta Veshta*. *Vidangadi Guggulu* stabalizes *Agni* in its normal level. When *Pachaka Agni* become stabalize the *Dhatava Agni* progressively comes to state of equilibrium. The selection of the drug for the disease of *Dantveshta* has been done on the basis of its anti-inflammatory[16],anti-microbial[17], anti-oxidant[18], *Raktastambaka* action of mainly *Vidanga* aand *Guggulu* that has been clinically proved.

CONCLUSION
Dantaveshta is described by *Acharya Sushruta* in *Nidansthan* mentioning *Puyastrava* and *Chaladanta* as the main symptom of the disease. Keeping this thing in mind it can be correlated with Pyorrhea Alveolaris or periodontitis in which the supportive structure of the tooth is damaged. In present study *Vidangadi Guggulu* is taken as a drug of choice as it has *Ropana, Krimighna,Raktastambaka Lekhana* properties and is also *Kapha Vata Shamaka* so is helpful in *Dantaveshta* as this is due to *Dushit Kapha* with leads to *Dushti* of *Rakta* ahead. Overall result of therapy, which was on

Vidangadi Guggulu revealed that %age relief was 49.36% and 80% of the patients were moderately improved and 20% of the patients were mildly improved.

REFERENCES

1. Oral health by Indian Dental Association, Dec 2010; 3.
2. Sushuruta samhita, Uttra Tantra, Ayurvedtatvasandeepika Commentary by Kaviraj Ambika Dutta Shastri, Reprint: 2012, By Chaukhamba Sanskrit Sansthan Varanasi, Su. U. 1/4, 595.
3. Sushruta Samhita, Ayurvedatatvasandeepika Commentary by Kaviraj Ambika Dutta Shastri, Reprint, By Chaukhamba Sanskrit Sansthan Varanasi, Su.Ni, 2012; 16/3: 381.
4. Sushruta Samhita, Ayurvedatatvasandeepika Commentary by Kaviraj Ambika Dutta Shastri, Reprint, By Chaukhamba Sanskrit Sansthan Varanasi, Su.Ni. 16/3, 2012; 381.
5. Sushruta Samhita, Ayurvedatatvasandeepika Commentary by Kaviraj Ambika Dutta Shastri, Reprint, By Chaukhamba Sanskrit Sansthan Varanasi, Su.Ni. 16/4, Page No., 2012; 382.
6. Sushruta Samhita, Ayurvedatatvasandeepika Commentary by Kaviraj Ambika Dutta Shastri, Reprint, By Chaukhamba Sanskrit Sansthan Varanasi, Su.Ni. 16/14, 2012; 383.
7. Sushruta Samhita, Ayurvedatatvasandeepika Commentary by Kaviraj Ambika Dutta Shastri, Reprint, By Chaukhamba Sanskrit Sansthan Varanasi, Su.Ni, 2012; 16/18: 383.
8. Newman and Carranza's Clinical Periodontology by Michael G. Newman, Henry H. Takei, Perry R. Klokkevold, Fermin A. Carranza, 13th Edition, Chapter, 5: 62.
9. Newman and Carranza's Clinical Periodontology by Michael G. Newman, Henry H. Takei, Perry R. Klokkevold, Fermin A. Carranza, 13th Edition, Chapter, 5: 63.
10. Newman and Carranza's Clinical Periodontology by Michael G. Newman, Henry H. Takei, Perry R. Klokkevold, Fermin A. Carranza, 13th Edition, Chapter, 5: 63.
11. Newman and Carranza's Clinical Periodontology by Michael G. Newman, Henry H. Takei, Perry R. Klokkevold, Fermin A. Carranza, 13th Edition, Chapter, 5: 64.
12. Yoga Ratnakara: Yoga Ratnakara with "Vidyotini" Hindi Commentary by Vaidya Lakshmipati Shastri, Chaukhamba Sanskrit Series Office, Varanasi, 2nd Edition, Uttrardha, Chapter-Vranashodh anaropanavidhi, 1973; 177.
13. Ayurveda Pharmacopia of India, Part II, Vol- I.
14. Bhaishjaya Ratnavali of Shri Govind Das, 'Vidyotini' Hindi Commentary by Kavi Raj Ambika Dutt Shastri, Motilal Banarasi Dass, Chaukhamba Prakashan, Varanasi, 18th Edition, Revised, Chapter 4, Shloka, 2019; 127: 62.
15. Caraka Samhita of Agnivesa revised by Caraka and Drdhabala Part-II, Vidyotini Hindi Commentary by Pt. Kasinatha Sastri, Dr. Gorakha Nath Chaturvedi, Editor : Pt. Rajeshwara Datta Shastri, Pt. Yadunandana Upadhyaya Pt. Ganga Sahaya Pandeya, Dr, Banarsi Dasa Gupta, Bhisagratna Pt. Bhramashankar Mishra, Reprint, by Chaukhamba Bharti Academy, Varanasi, Ch.Su, 2012; 19/5: 389.
16. Research Journal of Pharmaceutical, Biological and Chemical Sciences, Ayurvedic And Modern Aspects Of Guggulu W.S.R. To Its Pharmacological Action, 2018; 1747.
17. Jour. Res. Ind. Med. 9:2, 1974; 65.
18. Lal and Mishra, IJPSR, 2013; 4(10): 3830.