

## IMPORTANCE OF ORAL HYGIENE IN PREVENTIVE CARDIOLOGY: AN AYURVEDIC VIEW

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### Abstract

The focus of Ayurveda is *swasthasya swaasthya samrakshanam* (maintaining good health) and *aaturasya vikaara prasamanam* (curing diseases). Ayurveda has explained various regimens for oral hygiene (*mukha samrakshana*). Untreated oral cavity diseases can cause a variety of other ailments including systemic illness. *Hrudroga* is one among them. At first glance, there may not exist any relation between *mukharoga* and *hrudroga*. But when we go deep, we can find the resemblance in *mukharoga nidaana* (etiology of oral diseases) and *hrudroga* aetiology. In Ayurvedic point of view, the symptomatology of coronary artery disease coincides with that of *krimiya* and *kaphaja hrudroga*. The common *nidaana* of both include *kapha dushti*, *abhisyanam*, *aama* and *rasa dushti*. So *kapha – aama hara dinacharyas* can prevent both *mukharoga* and *hrudroga* to a great extent. This article explains the significance of measures of oral hygiene instructed in Ayurveda and its role in prevention of cardiac diseases.

**Key words:** Mukharoga; Hrudroga; Dinacharya; Oral hygiene.

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## INTRODUCTION

In Ayurveda, *swasthya samrakshana* is given equal importance with *vikaara prasamana*. For *swasthya samrakshana*, *aacharyas* have explained *aaharas* and *vihaaras* in different contexts like *dinacharya*, *rithucharya* etc.<sup>[1]</sup> In various studies, regarding the relation between oral diseases and cardiovascular diseases, it has been statistically proven that there exists a clear relationship between periodontitis and cardiac diseases. Oral health is totally unrelated to lifespan but it is an important area of health concern. In Ayurveda classics, even though we are not getting any direct link between *mukharoga* and *hrudroga*, some of the reasons behind both categories are found to be the same. In our classics, the prime cause behind each and every disease is *aama*.<sup>[2]</sup> The notion of *aama* is very vast which can only be explained in various levels. In broader sense, *aama* is the cause for both *mukharoga* and *hrudroga*. *Aama* is synonymous to *mandaagni*. So when the *agni* which is responsible for *aahaara pachana* and *dosha* formation is *manda*, it may result in *aama* at *koshta* level and thus formed *rasa dhaathu* will be *apakva* and *doshas*, *saama*.<sup>[3]</sup> If the *agni* responsible for *dhaathu* formation is deranged, it leads to *aamatwa* at *dhaathu* level. The *dhaatwagni mandya* result in *srotho dushti*. This *dushti* cause *atipravruithi*, *sanga*, *vimarga gamana*, *sira grandhi* in respective channels. *Hrudroga* is mainly *rasa pradoshaja roga* since it is the *moolasthaana* of *rasavaha srothas*. Understanding *aama* in *salakya tantra* is a prime concern since it is about dealing with *indriya*. *Syanda* in *urdwanga srotas* is the main cause for all *mukharogas*. This *syanda* causes *aamatwa* resulting in *rasa dushti* leading to *hrudroga*.

*Mukha* forms the entrance to *koshta*. The exact anatomy of *mukha* explained in ayurvedic classics includes *oshta*, *ganda*, *dwija (danda)*, *dandamoola*, *jihwa*, *taalu*, *gala* and *sarvatra vaktra*.<sup>[4]</sup> That is, whole of oral cavity including lips, teeth, gums, tongue, tonsils,

pharynx, larynx etc. form the concept of '*mukha*'.

*Mukha roga* in total are predominant in *kapha* and *raktha*.<sup>[5]</sup> While explaining the anatomy of heart in Ayurveda classics, it is said that *hrudaya* is formed out of *kapha* and *raktha*. So any *nidaana* vitiating *kapha dosa* and *raktha dhaathu* may cause both *mukha roga* and *hrudroga*.

## Review of literature

“Case-control studies in India have identified that the common major risk factors like hypertension, lipid abnormalities, smoking, obesity, diabetes, sedentary lifestyle, low fruit and vegetable intake, and psychosocial stress account for more than 90% of incident myocardial infarctions and stroke”.<sup>[6]</sup> “A chronic oral infection such as periodontitis is a constant potential source of infection and has been considered as a separate risk factor for cardiovascular diseases, cerebrovascular diseases, peripheral arterial disease, respiratory diseases, and low birth weight”. Chronic periodontitis is associated with the incidence of coronary heart disease (CHD) among younger men. Cumulative evidence supports a causal association between periodontal infection and atherosclerotic cardiovascular disease.”<sup>[7]</sup>

A common periodontitis-associated bacterium, *Porphyromonas gingivalis* (*P. gingivalis*), has been found to invade endothelial cells as well as atheromatous tissues. This results in endothelial injury which in turn causing increased vascular permeability, leukocyte adhesion and thrombosis. Finally, lipid accumulation occurs both extracellularly and within cells.

Periodontitis can elevate levels of C - reactive protein, interleukin (IL)-6 and neutrophils. This increases the inflammatory activity in atherosclerotic lesions. These systemic markers of inflammation act as predictors of

present and future cardiovascular events<sup>7</sup>. Also, some oral bacteria have been found in carotid atheromas. In a scientific article on “oral health and coronary heart diseases” by Marc I Mathews et al, they have focused on using the integrated model to describe the interconnections of periodontal disease on the pathogenesis of CHD. Nine health factors, which have been associated with a statistically significant increase or decrease in CVD risk, were considered in the model. They are alcohol, food, exercise, smoking, oral health, stress, depression, insomnia and sleep apnea.<sup>[8]</sup> Gingivitis did not increase the risk of coronary heart disease, whereas periodontitis or having no teeth increased it by about 25%.<sup>[9]</sup>

“The first American heart association guidelines identified those with rheumatic or congenital heart disease as being at increased risk of infective endocarditis, and dental extraction and other dental manipulations which disturb the gums, the removal of tonsils and adenoids etc. where antibiotic prophylaxis was indicated” 30 minutes before the procedure.<sup>[10]</sup> This indicates the possibility of occurrence of infective endocarditis after oral manipulations.

A study was conducted to develop a tool for *rasadushti* in subjects with risk for CVD. In this study, 26 symptoms of *rasadushti* were found to have reasonably good results in psychometric analysis. This includes *angamarda, aalasya, tandra, agnisaada, swaasa, tama, alpacheshtha, saitya, pandutva, hrullasa, jwara, nidra, srotorodha, praseka, arochaka, sthaulya* etc. *Rasa – kapha dushti* is evident in almost all *lakshanas*.<sup>[11]</sup>

Patients with generalized chronic periodontitis have more acidic salivary pH (6.85+/-0.11) than those compared with that of healthy gums (7.06+/-0.04). “A saliva pH below 7.0 usually indicates acidemia (abnormal acidity of the blood). If a chronic condition exists, the mouth is more susceptible to dental decay, halitosis and periodontitis. Chronic acidemia

can be a causative factor for a multitude of diseases affecting the whole body”.<sup>[12]</sup>

## MATERIALS

Relevant scholarly articles and Ayurvedic classics.

### Importance of oral hygiene in preventive cardiology

Classical Ayurvedic texts had explained the methods, benefits and the need for oral hygiene. *Mukharogas* are caused as a result of vitiation of *kapha* and *raktha*. The *nidaana* of *mukharoga* include *matsya, maahisha, vaaraaha, pishithaamaka, moolaka, maasha, soopa, dadhi, ksheera, suktha, ikshurasa, phaanitha* of *aahaara varga*, and *vihaara* include *avaakshayya, dandadhaavana dwesha, anuchitha dhooma, chardana, gandoosha* and *siravyadha*. These *aahara* possess mainly *kapha kopa* gunas like *guru, snigdha* along with *ushna guna* which ultimately results in *abhishyandatwa* in *srothas* and finally accumulation of vitiated *dosha* in the oral cavity.

In *dinacharya*, Ayurvedic *acharyas* are clearly mentioning proper *upakramas* for keeping *mukha* free from *aama* and other ailments. This includes *dhoomapaana, nasya, danda dhaavana, jihwa nirlekhana, tamboolasevana, thaila gandoosha* etc.<sup>[13]</sup> The above said daily regimens strengthen *oordhwakaaya*, including *hrudaya* and *mukha*, which is *kapha* predominant. *Dandamoola rogas* and *kantha rogas* (gingival /throat inflammation and infections) may lead to atherosclerotic changes and thereby ischemic heart diseases. In *Ashtangahrudaya*, *Vagbhata* stresses the importance of taking proper treatment of *dandamoolarogas*, as inadequate treatment may worsen the condition involving *uttarottara dhathus* making the condition chronic and incurable. Likewise, *kantha* is the seat of *praana* and *anila*. So all *kantha rogas* must be treated immediately.

*Dhoomapana* is *kapha vaata samana*. *Hrutkanthendriya samsudhi* is the result of *samyak dhoomapana*. Since *kapha* is predominant in *urdwakaya* and *vaata* is responsible for all *indriya* function, *urdwakaaya* must be protected from *kapha vaata kopa*. *Acharyas* have even mentioned *dandadhaavana choorna* with *trikatu*, *triphala*, *trijataka* and *kushta*. Since accumulation of plaque is the main cause for teeth and gum disorders, proper brushing twice a day is necessary. *Dandadhaavanam* must be done with proper *dandakoorcha* of specified *rasas* (*katu*, *tikta*, *kashaya*). *Dandadhaavana* is indicated during morning and every time after food. The drugs mentioned by *acharyas* for *dandadhaavana*, *dandakoorcha*, *mukhga pratisarana* etc. are having the property of *mukhavaishadya*. They can even maintain proper pH of oral cavity after each meal and prevent microorganisms from lodging the oral cavity. Regarding *gandoosha*, *taila gandoosha* is included in daily regimens and *gandoosha* with *sukhoshna tilakalkodakam*, *mamsarasam*, *dhaanyamlam* etc. are explained in specific conditions. *Gandoosha* is an important procedure having action beyond oral cavity. Its action can be compared with the effect of *langhana* in pacifying *aama*. *Gandoosha* is explained as a treatment procedure for *netra* as well as *karna roga*. Thus *gandoosha* helps in preventing *kapha sanchaya* in all *urdwajatruga srothas*. Also, while explaining *mukharoga* treatment, the importance of *rakthamoksha* is mentioned. “*tasmat tesham asakrit rudhiram visravayeet dushtam*”.<sup>[14]</sup> This indicates the possible systemic complications of *mukharoga*. For local procedures, *katu thiktha rasa* is given importance. They keep oral cavity clean and also they are good for *srotoshodhana*. *Katu thiktha rasa* helps in preventing *kapha* predominant *aama*. This *kapha* possess similar properties of *rasa dhaathu*. “*rasopi shleshmavat*”.<sup>[15]</sup> *Kapha* is the *dhaathumala* of *rasa*.<sup>[16]</sup> *Kapha* predominant *aahaara* cause *abhishyanda* in *rasavaha srotha* and thereby

*srothorodha* due to *paichilya* and *gaurava* property. *Acharyas* have explained a common *mukharoga nidana* which mainly includes *kapha* predominant *aahaaras* and *vihaaras* causing *rasa vaha srotodusthi*. *Hrudaya* is the *moolasthaana* of *rasavaha srotas* and *praanavaha srothas*. *Rasavaha srotodusthi* thus affect *hrudaya* and can thus cause *hrudroga*.

## DISCUSSION

Thus a *dosha-dhathu-nidana-chikitsa* wise relation is seen in *mukharoga* and *hrudroga*. The procedures explaining in *dinacharya* not only keeps oral cavity clean but also keep other structures of *urdhwanga* including middle ear, eustachian tube, paranasal sinuses, nasal cavity etc., free from diseases. So all these procedures thus become important in the prevention of cardiac disease as well.

## CONCLUSION

Health is a state of mental and physical well being. Ayurveda offers a perfect life style so that an individual attains this well being throughout his life. Apart from its powerful contributions in the clinical aspects, the preventive side proves highly significant during the present scenario. Studies and researches have proved a strong relation between oral hygiene and preventive cardiology which can very well be explained through the basic principles of Ayurveda too. Hence the measures intended to maintain oral hygiene becomes undoubtedly significant in preventive cardiology.

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