



# “RAKTAMOKSHANA IN THE MANAGEMENT OF DANTAMOOLAGATA ROGAS W.S.R. TO PERIODONTAL DISEASES – A CONCEPTUAL STUDY”

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## **ABSTRACT:**

**Background:** The *Mukha* or precisely the oral cavity acting as doorway of the gastrointestinal tract, works as an indicator of body health and is considered to be one of the important parts of the *Urdhawanga*. *Acharyas* divided it into seven *Adhithanas* and *Dantamoola* is one of them. The *Rogas* related to *Dantamoola* can be correlated with Periodontal diseases on the basis of their signs and symptoms. Periodontal diseases are widely regarded as the second most common oral disease worldwide after dental decay. It's prevalent at 30-50% of the population in the United States. According to *Acharya Vagbhata*, majority of *Mukharogas*, *Dantamoolagata Rogas* and *Galarogas* occur due to *Kapha- Rakta Dushti* that is why we should do *Raktamokshana* very often in *Dantamoolagata Rogas*. *Raktamokshana* (bloodletting) is one of the *Panchashodhana karmas* described by *Acharya Sushruta* and *Acharya Vagbhata* indicated in *Rakta-Pitta Dushtijanya Vyadhi*. It can be done by surgical and para surgical methods. **Aims and Objectives:** To study the concepts of *Raktamokshana* (bloodletting) in the management of *Dantamoolagata Rogas* with understanding of Periodontal diseases. **Materials and Methods:** *Dantamoolagata Rogas*, Periodontal diseases and *Raktamokshana* (bloodletting) from all the available Ayurvedic and Modern literatures were studied and analysed. **Result:** *Raktamokshana* (bloodletting) which is described by *Acharyas* in treatment of *Dantamoolagata Rogas* can be used in practice more often as it helps to break the pathogenesis and cure the disease from its root.

**Key Words:** *Dantamoolagata Rogas*, *Raktamokshana* (bloodletting), Periodontal disease, Gingivitis, Periodontitis.

## **INTRODUCTION:**

Oral health is a good indicator for overall wellbeing and quality of life. According to Ayurveda, *Mukha* is one of the *Bahirmukha Srotas* which indicate the body health and is considered to be one of the important parts of the *Urdhawanga*<sup>1</sup>. In modern science, mouth is considered as a window into the health because signs of nutritional deficiencies or general infections and systemic diseases may first become apparent due to mouth lesions or other oral problems. Many references are described in Ayurveda where, oral manifestations are mentioned as *Purvarupa* and *Rupa* of different *Vyadhi*. In Ayurveda, we can find the different descriptions of Oral health in preventive and curative way. *Mukha* consists of the seven *Adhithana*, *Dantamoola* is one of them.<sup>2</sup> The *Rogas* related to *Dantamoola* can be correlated with Periodontal diseases on the basis of their signs and symptoms. Periodontal diseases are widely regarded as the second most common oral disease worldwide after dental decay. It's prevalent at 30-50% of the population in the United States.<sup>3</sup>

Periodontitis is defined as an inflammatory disease of the supporting tissues of the teeth caused by specific microorganisms or groups of specific microorganisms, resulting in progressive destruction of the periodontal ligament and alveolar bone with increased probing depth formation, recession, or both.

In Ayurveda, the *Shodhana Chikitsa* has got supreme importance for complete removal of *Doshas* and non-reoccurrence of *Vyadhi*.<sup>4</sup> According to *Acharya Vagbhata*, *Raktamokshana*(bloodletting) is one of the *Panchashodhana Chikitsa*.<sup>5</sup> *Raktamokshana* is procedure advised for treatment of *Raktadustijanya Vyadhi*. According to *Acharya Vagbhata*, majority of *Mukharoga*, *Dantamoolagata Rogas* and *Galaroga* occurs due to *Kapha- Rakta Dushti*.<sup>6</sup> For this reason, we should do *Raktamokshana* (bloodletting) very often in *Dantamoolagata Rogas* to relieve the patient from these pathogeneses. The present review deals with the probable mode of action of *Raktamokshana* (bloodletting) therapy in *Dantamoolagata Rogas* and explain the outcome described in Ayurveda classics.

**AIMS AND OBJECTIVES:**

To study the concepts of *Raktamokshana* (bloodletting) in the management of *Dantamoolagata Rogas* with understanding of Periodontal diseases.

**MATERIALS AND METHODS:**

1. *Dantamoolagata Rogas* from different *Ayurvedic* literature were studied and analysed.
2. Etiopathogenesis of Periodontal disease from available sources of modern literature were studied and analysed.
3. Understanding the *Raktamokshana* (bloodletting) and its mode of action in *Dantamoolagata Rogas* from available literature.

**OBSERVATION AND RESULTS:****❖ *Dantamoolagata Rogas:***

Classification of *Dantamoolagata Rogas* by different Acharyas are as below:

Sr. No.	<i>Sushruta</i> (15)	<i>A.hr./ A.S. / Sha.S.</i> (13)	<i>Bha.Pra./ Yo.Ra.</i> (16)	<i>Ma.Ni.</i> (16)
1.	<i>Shitada</i>	<i>Shitada</i>	<i>Shitada</i>	<i>Shitada</i>
2.	<i>Dantapupputa</i>	<i>Dantapupputa</i>	<i>Dantapupputa</i>	<i>Dantapupputa</i>
3.	<i>Dantaveshtaka</i>	-	<i>Dantaveshtaka</i>	<i>Dantaveshtaka</i>
4.	<i>Shosira</i>	<i>Sushira</i>	<i>Shosira</i>	<i>Shosira</i>
5.	<i>Mahashosira</i>	<i>Mahasushira</i>	<i>Mahasosira</i>	<i>Mahashosira</i>
6.	<i>Paridara</i>	-	<i>Paridara</i>	<i>Paridara</i>
7.	<i>Upakusha</i>	<i>Upakusha</i>	<i>Upakusha</i>	<i>Upakusha</i>
8.	<i>Dantavidarbha</i>	<i>Vidarbha</i>	<i>Vaidarbha</i>	<i>Vaidarbha</i>
9.	<i>Vardhana</i>	-	<i>Khalli Vardhana</i>	<i>Khali Vardhana</i>
10.	<i>Adhimansa</i>	<i>Adhimansa</i>	<i>Adhimandsa</i>	<i>Adhimansa</i>
11. to 15	<i>Dantanaadi</i> - • <i>Vataj</i> • <i>Pittaja</i> • <i>Kapha</i> • <i>Sannipataj</i> • <i>Agantuja</i>	<i>Dantanaadi</i> - • <i>Vataja</i> • <i>Pttaja</i> • <i>Kaphaja</i> • <i>Sannipataja</i> • <i>Raktaja</i>	<i>Dantanaadi</i> - • <i>Vataj</i> • <i>Pittaja</i> • <i>Kapha</i> • <i>Sannipataj</i> • <i>Agantuja</i>	<i>Dantanaadi</i> - • <i>Vataj</i> • <i>Pittaja</i> • <i>Kapha</i> • <i>Sannipataj</i> • <i>Agantuja</i>
16.	-	<i>Dantavidradhi</i>	<i>Dantavidradhi</i>	<i>Karala</i>

*Doshika* involvement with its Modern correlation and with its indication of *Raktamokshana* (bloodletting) in *Dantamoolagata Rogas* are as below:<sup>7</sup>

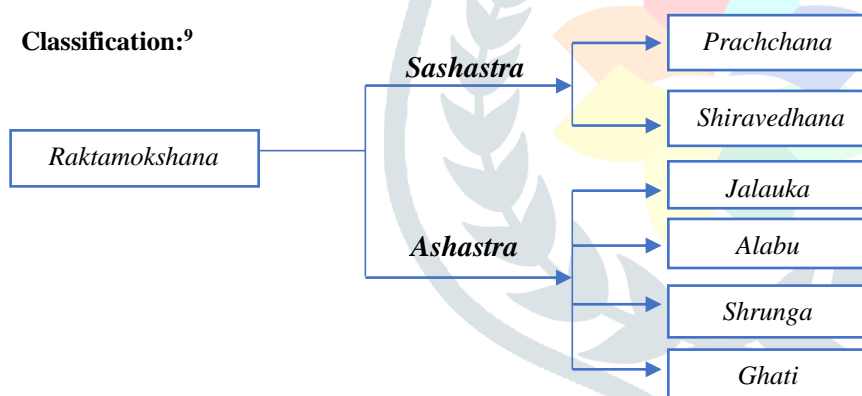
Sr. No.	<i>Roga</i>	<i>Dosha</i>	Modern Corelation	<i>Raktamokshana</i>
1	<i>Shitada</i>	<i>Kapha- Rakta</i>	Gingivitis	Advised
2	<i>Dantapupputa</i>	<i>Kapha- Rakta</i>	Gingivitis / Early Periodontitis	Advised
3	<i>Dantaveshtaka</i>	<i>Rakta</i>	Periodontitis	Advised
4	<i>Shosira</i>	<i>Kapha- Rakta</i>	Acute Gingivitis	Advised
5	<i>Mahashosira</i>	<i>Sannipataja</i>	Necrotizing Periodontitis	
6	<i>Paridara</i>	<i>Pitta- Kapha- Rakta</i>	Chronic gingivitis	Advised
7	<i>Upakusha</i>	<i>Pitta- Rakta</i>	Pyorrhea alveolaris	Advised
8	<i>Dantavidarbha</i>	-	-	-
9	<i>Vardhana</i>	<i>Vata</i>	Hyperdontia	-
10	<i>Adhimansa</i>	<i>Kapha</i>	Pericoronitis	-
11	<i>Dantanaadi</i>	<i>Vata</i> <i>Pitta</i> <i>Kapha</i> <i>Sannipataja</i> <i>Agantuja</i>	Periapical abscess	-
12	<i>Dantavidradhi</i>	<i>Kapha- Rkta</i>	Periapical abscess	-

Symptomatically evaluation of *Dantamoolagata Rogas*:<sup>8</sup>

Rogas	Symptoms									
	Shot ha	Ruj a	Rakt a Strava	Krushna ta	Mrudu ta	Prakle da	Pak a	Puya Stara	Dant a Chala	Durgandh a
Shitada	-	-	+	+	+	+	+	-	-	+
Danta Pupputa	+	+	-	-	-	-	-	-	-	-
Danta Veshtaka	-	-	+	-	-	-	-	+	+	-
Shosira	+	+	-	-	-	-	-	-	-	-
Maha Shosira	-	+	+	-	-	-	+	+	+	-
Paridara	-	-	+	-	-	-	+	-	-	-
Upakusha	-	+	+	-	-	-	+	-	+	+
Danta Vidarbha	+	-	-	-	-	-	-	-	+	-
Vardhana	-	+	-	-	-	-	-	-	-	-
Adhimansa	+	+	-	-	-	-	-	-	-	-
Dantanaadi	+	-	-	-	-	-	-	+	-	-
Danta Vidradhi	+	+	+	-	-	-	-	+	-	-

❖ **Raktamokshana:**

*Raktamokshana* is surgical or para surgical procedure generally referred to as bloodletting in present era. According to *Acharya Vagbhata*, it is one of the *Panchashodhana Chikitsa*. It is the procedure advised for treatment of *Raktdustijanya Vyadhi*. It can be classified as below.

Classification:<sup>9</sup>

## Importance:

*Acharya Sushruta* had explained *Raktmokshana* (bloodletting) concept with applied evidences. The importance of *Raktmokshana* can be evidenced in classics as the references quote of *Sira Vedha* (Venesection) is considered as a half part of the treatment mentioned in *Shalyatantra*. *Acharya Charaka* and *Acharya Vagabhata* gave importance to *Shodhana* therapy for complete removal of *Doshas* and non-recurrence of the disease.<sup>10</sup> *Raktamokshana Karma* provides 'Aashu Vyadhya Shanti' as quoted by *Acharya Sushruta*. *Acharya Sushruta* has mentioned that the individual who frequently go through bloodletting will not get affected by *Shopa*, *Twacha Dasha*, *Visarpa*, *Granthi* etc disorders.<sup>11</sup>

❖ **Periodontal diseases:**

Periodontium is the functional unit of tissues supporting the tooth including gingiva, the periodontal ligament, the cementum and the alveolar process. it is also called gum disease, are serious bacterial infection that attack the gums and the surrounding of the tooth.<sup>12</sup> If left untreated it can lead to loss of tooth.

## Classification:

According to Genco (1990):<sup>13</sup>

Sr. No.	Gingivitis	Periodontitis
1.	Plaque/Bacterial induced	Adult periodontitis
2.	Non- aggravated	Early onset periodontitis
3.	Systemically aggravated	Early onset related to systemic disease
4.	Necrotizing ulcerative	Early onset with unknown determinants

5.	Non plaque induced	Necrotizing ulcerative periodontitis
6.	other	Periodontal abscess

**Pathogenesis:** Infiltration of the connective tissues by numerous defence cells, particularly neutrophils macrophages, plasma cells, and lymphocytes is noted. As a result, accumulation of these defence cells and the extracellular release of their destructive enzymes, disruption of the normal anatomy of the connective tissues occurs and causes collagen depletion and subsequent proliferation of the junctional epithelium. Vasodilation and increased vascular permeability led to increased leakage of fluid out of the vessels and facilitate the passage of defence cells from the vasculature into the tissues, thus resulting in enlargement of the tissues, which appear erythematous and oedematous. These changes are all reversible if the bacterial challenge is substantially reduced by improved oral hygiene.<sup>14</sup>

It can be divided into 4 stages:<sup>15</sup>

Stages	Histopathological changes
<b>1. Initial lesion</b>	<ul style="list-style-type: none"> <li>• Within 2 to 4 days of plaque accumulation</li> <li>• Low grade of inflammation</li> <li>• Toxins released from plaque will increase neutrophile, vasodilatation and vascular permeability in connective tissue</li> <li>• Neutrophile and exudates then released into gingival sulcus which can be seen through histological examination</li> </ul>
<b>2. Early lesion</b>	<ul style="list-style-type: none"> <li>• After 1 week of continuous plaque accumulation and corresponds to early clinical signs of gingivitis</li> <li>• Neutrophiles and lymphocytes migrate to the sulcus and phagocytose the bacteria</li> <li>• The gingiva is erythematous in appearance as a result of the proliferation of capillaries, the opening up of microvascular beds, and continued vasodilation.</li> <li>• Fibroblasts degenerate, primarily by apoptosis which will increase the space for infiltration</li> <li>• Collagen destruction, deep gingival sulcus also will occur</li> </ul>
<b>3. Established lesion</b>	<ul style="list-style-type: none"> <li>• Clinically referred as chronic Gingivitis</li> <li>• This stage is dominated by plasma cell, inflammatory cells, MMP-8 and MMP-9, neutrophiles which release lysozyme content extracellularly resulting in further tissue destruction.</li> <li>• Leakage of plasma from blood vessels will increases viscosity and decreases blood flow of gingival vessels which will lead to anoxemia and bluish hue of gingiva.</li> <li>• The junctional epithelium and sulcular epithelium form a pocket epithelium, which may be ulcerated and less able to resist the passage of the periodontal probe, so bleeding on probing is a common feature of chronic gingivitis</li> </ul>
<b>4. Advanced lesion</b>	<ul style="list-style-type: none"> <li>• Transitional stage of gingivitis to periodontitis</li> <li>• Responsible factors are- Bacterial challenge, host inflammatory response, susceptibility factors, environmental factors and genetic risk factors</li> <li>• Collagen destruction extends into periodontal ligament and alveolar bone</li> <li>• The destruction of collagen fibres in the periodontal ligament continues, bone resorption progresses, the junctional epithelium migrates apically to maintain an intact barrier, and as a result, the pocket deepens fractionally.</li> <li>• Difficult to treat.</li> </ul>

## DISCUSSION:

### **Ayurvedic Point of view:**

As majority of *Dantamoolagata Rogas* are of *Raktadoshadushti Pradhana, Raktamokshana* (bloodletting) can be choice of treatment in it. If we don't cut the roots of tree, it will grow again and again, just like that if we don't remove the *Doshas* from their roots the diseases will occur repeatedly. That is why, the *Shodhana* therapy in form of *Raktamokshana* is to be chosen for *Dantamoolagata Rogas* to cure them and stop recurrence of them. *Raktamokshana* is also useful in *Kapha* and *Pitta Sansargaja Rakta Dushti*.

As, we know that there is different type of *Raktmokshana* which can be used in various diseases according to involvement of *Doshas*. *Prachhana Vidhi* can be used in *Ekadesha Sthita Doshas*, and *Jalauka* is used for the *Grathita Rakta*.<sup>16</sup> *Dantamoolagata Rogas* occur in *Dantamoola* which is considered as *Ekadesha*. In pathogenesis of periodontal disease, we can find the stasis of blood flow that can be understand as the *Grathita Rakta*. On the basis of these concepts *Prachhana Vidhi* and *Jalaukaavacharana* can be used in *Dantamoolagata Rogas*. Also, in the convenient of performing the procedure *Prachhana Vidhi* and *Jalaukaavacharana* should be used in *Dantamoolagata Rogas*.

### **Modern point of view:**



*Raktamokshana* (bloodletting) will remove blood from overloaded vessels which will reduce symptoms like inflammation and bleeding gums. Also, increased drainage will reduce the venous congestion and pressure that can help in reduction of symptoms like pain and discoloration. It will also increase the oxygenated blood flow which will help in regeneration of gingival tissues. Gingivitis can progress to periodontitis by progression of tissue damage which will occur due to deepening the sulcus and stasis of sulcular fluid which contains lots of toxins like bacteria, macrophages etc., *Raktamokshana* (bloodletting) will remove that fluid from the sulcus which can be helpful in progression of the disease. Deep sulcus with toxin which leads to periodontal pockets which can further damage the whole of periodontium which also can be prevented by *Raktamokshana*.

Periodontal diseases occur in stages and can lead to loss of teeth if not treated and stopped at right time and in early stage. *Dantamoolagata Rogas* also can be understood as stages wise occurrence. Ayurveda do believe in prevention of the diseases in which especially *Raktamokshana* should be used in *Dantamoolagata Rogas* to treat them and prevent further worsening of the disease. Also, the modern management of periodontal diseases are way more costly and time consuming in compare of Ayurvedic management which is a noticeable point for selection of Ayurvedic management over modern management.

### **CONCLUSION:**

*Raktamokshana* is used in *Raktapradhana Doshadushti* and can be a good choice of treatment in *Dantamoolagata Rogas*. Qualities like complete removal of the *Dosha* and non- recurrence of *Vyadhi* of *Raktamokshana* makes it choice of therapy over other treatment options. Hence, the Ayurvedic treatment especially *Raktamokshana* (bloodletting) can be used to treat *Dantamoolagata Roga* and can make a remarkable place in modern dentistry.

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