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Review Article

## Analytical Review of *Medadhatudushti* in *Prameha*

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### Abstract

*Prameha* is a lifestyle disorder, described in ancient medical science. It is a *sannipataja* disorder having predominance of *kaphadosha* and *medodhatudushti*. It is produced by the vitiation of ten *dusya* which include six *dhatu*, *ojus* and body fluids. Among ten *dusya meda* is prime *dusya* because of similar nature of *kapha* and *meda*. Various factors i.e. *aharaja* and *viharaja nidana*, increase *kapha dosha* which in turn vitiates *medodhatu*. Vitiating *kapha* affects the *medovahasrotasa* and *medodharakala*. *Medadhatwaagni* gets degraded resulting into improper formation of *medadhatu*. The abnormal *medadhatu* is responsible for obesity and *prameha*. It leads to the manifestation of many *purvarupa* of *prameha* & ultimately *prabhutaavila mutrata*. Assessment of *medadushti* is very important for the early diagnosis and proper treatment of *prameha*.

**Keywords:** *Prameha*, *Medadhatu*, *Medadhatwaagni*, *Medadhatudushti*

## Introduction

The *prameha* means passing large quantity of turbid urine frequently. According to *Madhavanidana* text it is characterized by increased quantity of urine with or without the increased frequency of urine<sup>1</sup>. It is a *sannipatika* disorder having involvement of almost all *dhatu*, *ojus* and urine. The excessive *abaddhameda* (loose fat), *mamsa* (muscle proteins), *kleda*(body-fluids), *shukra* (reproductive tissues), *shonita* (blood), *vasa* (muscle fats), *majja* (bone marrow), *rasa* (body fluid with plasma), *ojas* (vital essence of all tissues) are important factors involved in pathogenesis of *prameha*<sup>2</sup>. *Kaphadosha* and *medadhatu* are mainly involved. The structural entity which provides support and nourishment to body is called *dhatu*<sup>3</sup>. The normalcy at the *dhatu* level is very important to maintain health<sup>4</sup>. *Dhatu* are susceptible to imbalances caused by *doshas*. *Meda* is one of the seven structural elements which has immense clinical importance. It plays an important role in developing metabolic disorders like *sthaulya* (obesity) and *prameha* (urinary disorders). The *medadhatu* is mainly present in the abdomen and inside the small bones (*sarakta meda*)<sup>5</sup>. *Vasa* is type of pure *meda* present in muscular tissue. Thus, *medadhatu* may be understood as all types of fats/lipids present in the body. There are particular channels for transportation of the *parinamrapta medodhatu* (digested and absorbed fats) known as *medovahasrotasa* in the body. The ancient seers have mentioned *purvrupa* (premonitory symptoms) of *Prameha* as *medadhatupradoshajavikara*<sup>6</sup> (abnormal functioning of *medadhatu*) which clearly indicates the involvement of body fats in this disease. As per therapeutic

point of view patients of *prameha* are described as *sthula pramehi* (obese patients of *prameha*) and *krisha pramehi* (lean patients of *prameha*)<sup>7</sup>. In both of these types the *medodhatu* is abnormal. The abnormal production of *medadhatu* (*aparipakva meda*) is because of the abnormal *medodhatwagni*<sup>8</sup>.

### Relation between *Kaphadosha* and *Medadhatu*

This relationship of interdependence of *dosha*, *dhatu* and *mala* in the body is known as *ashraya -ashrayi bhava/ adharadheya bhava* (supporter and dependent relationship)<sup>9</sup>. Due to the similarities in *panchabhauthika* elemental composition, the *dosha* take shelter in the *dhatu*s. The treatment of both the dependent and the supporter is also on similarity basis. *Kapha* is related the *rasa*, *mamsa*, *meda*, *majja*, *shukra*, *pureesha* and *mutra*, so *kaphadosha* shows affinity towards these *dushya*. *Medadhatu* is primarily composed of *prithvi* (earth), *jala* (water), and *agni* (fire) *mahabhuta*<sup>10</sup> and *kapha* is also composed of *prithvi* and *jala* (water)<sup>11</sup>. *Kapha* is associated with nutrition, stability and lubrication<sup>12</sup>. The *medadhatu* also provides including unctuousness and stability to the body<sup>13</sup>.

### Formation and metabolism of *Medadhatu*

All *dhatu* are dependent on food. The ingested food brought to *koshtha* by *pranavata*, is disintegrated and digested with the help of *pachakapitta*, *samanvata* and five *bhutagni*. It leads to the formation of *rasa* and *mala*. From this *rasa* part seven *dhatu* are metabolized/transformed into two kinds of products known as *sara* (nutrition) and *kitta* (waste). This process is the function of seven specific entities known

as *dhatvagni* which is specific for its corresponding *dhatu*. *Meda* is formed because of the action of *medo-dhatvagni* on *snigdha* attribute of *ambu* (liquid part) of *sukshma mansadhatu*<sup>14</sup>. The *jatharagni* essentially nourishes the respective *dhatu* in the form of *dhatvagni* residing in each of the *dhatu*. The *dhatvagni* is responsible for the increase (*vriddhi*)/ decrease (*kshaya*) of the representative *dhatu*. The hypo functioning (*saada*) of the *dhatvagni* leads to the increase in the respective *dhatu*. While hyper functioning (*atideepti*) leads to diminished production (*kshaya*) of the *dhatu*<sup>15</sup>. *Medadhatvagni* is the metabolic factor responsible for the formation and maintenance of *medadhatu* in the body. As per a review study the *poshaka mamsa dhatu* is transformed into *meda dhatu* by the *prathvi*, *jala*, and *mamsagni*. The *poshaka meda dhatu* is transformed in to *asthi dhatu* by the *prathvi*, *vayu*, and *medagni*<sup>16</sup>. So the role of *dhatvagni* is very important for metabolic disorders like dyslipidemia (*medoroga*), obstinate urinary disease including diabetes (*prameha*), obesity (*sthoulya*). In conditions like obesity (*sthoulya*), the *meda dhatu* metabolism weakens, leading to excessive *meda* (fat deposition). Undernourishment of the remaining *dhatu* depicts the slow metabolism of *meda* (*meda-dhatvagnimandya*) in the body<sup>17,18</sup>.

It is found in various sites like *sphig* (gluteal region), *udara* (abdomen) *vapabahana* (omentum), *vrikka* (kidneys), *asthi* (inside the bones)<sup>19</sup>.

*Medadhatu* can be divided into two components based on its functions. *Poshya medadhatu* is the structural component of *medadhatu* and is also known as fixed or stored fat (*baddhamedas*). It is stored in the layer of *meda* (*medodhara kala*), mainly in the omentum. Its primary function is to serve as a source of nutrition for *medadhatu* in case of starvation. The other type is *poshaka medadhatu* which is the circulating component of *medadhatu* and is free and unbound (*abaddha medas*). It circulates in the nutrient fluid or plasma (*rasadhatu*) and blood (*rakta*). Its primary function is to provide lubrication and unctuousness wherever needed in the body. This component can become vitiated in the pathogenesis of *prameha*. Various functions of *medodhatu* are *snehana* (moisture), *sweda* (perspiration), *dradhatva* (stability), *asthi pushti* (nourishment of the bones)<sup>20</sup>. *Medovahasrotomula* (the organs which are closely related to the functions of *medodhatu*) are *vrikka* and *vapavahan*, *kati*, *mamsa*<sup>21-23</sup>. It is noteworthy here that in the process of metabolism and formation of *medadhatu*, the metabolic by-products or *upadhatu* called *snayu* (ligaments) are also formed. These ligaments play an important role in providing support and stability to the body<sup>24</sup>. However, during this process, waste products such as sweat and sebum are also formed<sup>25</sup>. These waste products are excreted from the body through the skin and other excretory organs. The laxity in the body in pathogenesis of *prameha* is may be related to abnormality in *snayu*<sup>26</sup>. The bad smell of the body in *prameha* may be related to excessive sweat or sebum<sup>27</sup>.

### Medadhatuvriddhi and medadhatukshaya

An increase in *meda* (body fat) can be attributed to several factors such as lack of exercise, daytime sleeping, and a diet that increases *kapha*<sup>28</sup>. This increase in *meda* and *kapha* can cause blockages in the *srotas*, eventually resulting in *medovridhi*<sup>29</sup>. It results into *sthulata*, *prameha purvarupa*<sup>30</sup>, *snigdhangata*, *udarparshvavridhi*, *kasa*<sup>31</sup>, *sleshma- mamsa- raktavikara*<sup>32</sup>, *swasa* and *dourgandhyam*. *Medadhatukshaya* (reduction in body fat tissue) can be compared with the state of *atikrisha* mentioned in *Asthanindita purusha*<sup>33</sup>. This reduction in *medadhatu* can occur due to various factors such as undernourishment of *rasadhatu* caused by fasting,

excessive exercise, overworking, insomnia, excessive bathing, prolonged illness, and *vatavardhaka ahara -vihara*<sup>34</sup>.

### Medodushti and obesity

We have learnt that abnormality in *medovahasrotasa* leads to obesity and premonitory symptom of *prameha*<sup>35</sup>. It has been clearly mentioned that obese person can have many diseases among which *prameha* is one<sup>36,37</sup>. Additionally the consideration of *sthulapramehi*<sup>38</sup>, shows the significance of obesity in the treatment of *prameha*. Hence, it is mandatory to discuss pathology of obesity here. Obesity is caused due to over-nourishment as a consequence of the continuous intake of a heavy, sweet, cold and fatty diet, lack of physical exercise, abstinence from sexual intercourse, sleeping during the day, cheerfulness, lack of mental activities, and hereditary/genetic defects. These consequences may lead to an excess of fat and consequent depletion of other *dhatu*. Due to the obstruction of body channels by excess *medadhatu*, the movement of *vata* is specially confined to *koshtha* (abdominal region) resulting in the stimulation of digestive power and quick absorption of food which increases the hunger ultimately making the person to consume more food. By not following rules of taking meals at specific times during the day, he is afflicted by dreadful diseases. *Agni* (digestion power) and *vata* are the two most troublesome factors in pathogenesis of obesity. There is an excessive increase in fat and muscle tissue in the abdomen and other regions and a state of deficient metabolism and energy. The excessively obese have reduced lifespan, constricted or limited movement, reduced sexual activities or impotence (due to small quantity of semen produced and obstruction of the channel of semen by *medadhatu*), debility due to imbalance among *dhatu*, profuse sweating, bad smell (due to the inherent nature of fatty tissues as well as excessive sweating) excessive hunger and thirst<sup>39</sup>. As per sage *Sushruta ama* production leads to obesity and obesity leads to many diseases like *pramehapidika*<sup>40</sup>.

### Medodusthi and Prameha

*Nidana* intake (exposure to certain diets and less physical activities) aggravate *kapha* which spreads all over the body quickly because of fat and flaccidity in body. The *kapha* blends quickly with the *medas* primarily because of excessive fats and identical qualities of *kapha* and *medas*. Vitiating *kapha* vitiates *medas* in the process. The vitiating *kapha* and *meda* then mixes with *mamsa* (muscle tissues) and *kleda* (moisture/body fluid). Vitiating of the muscle tissues provides a congenial atmosphere for the manifestation of carbuncles (*pidika*) like *sharavika* and *kacchapika* in the muscle. The liquid *dhatu*s in the body get further vitiating and transformed into *mutra* (urine). *Vrikka* (kidney) and *basti* (urinary bladder) are at the two ends of the channels carrying urine; the openings of these channels get affected by *meda* and *kleda*. The vitiating *kapha* obstructs the openings of these channels. This results in the manifestation of *prameha* which becomes chronic or incurable due to the affection of all qualities of *kapha* and simultaneous vitiating of homogeneous and heterogeneous *dhatu*s<sup>41</sup>. Homogeneous vitiating is seen in *kaphaja prameha* which is curable and heterogeneous in *pittaja* and *vataja prameha* which are either palliable or incurable respectively.

In the initial stage, *kapha* is in excess, which vitiates *meda* and *kleda* causing *kaphaja prameha*. Further progression results in the *kshaya* of *kapha*. *Pitta* then predominates, which vitiates the blood (*rakta*), precipitating *pittaja prameha*. Further progression results in loss of *pitta*. This leads to vitiating of *vata*, which weans the body of vital substances/vital essence through urine, precipitating *vataja prameha*<sup>42</sup>. Death immediately comes in the form of *prameha* to those who are very lethargic and morbidly obese<sup>43</sup>.

## Clinical Manifestations of Prameha

Systemic manifestations in *prameha* have been described in terms of either *purvarooopa*, *lakshana* & *updrava*. The three vitiated *doshas*, while causing *prameha*, produce many prodromal symptoms which are very closely related to *medodushti*. Some of them are matting of hair; dryness in mouth, palate, and throat; thirst and laziness; increased amount of bodily waste excretion from the body sweat pores; adherence of bodily wastes to the orifices of the body (like ear, eyes, nose and body pores), appearance of turbidity or other abnormalities in the urine; smell of raw flesh in the urine; and excessive sleep and drowsiness<sup>44</sup>. Clinical manifestations of *prameha* are described in classical *ayurvedic* texts only on physical character of the urine<sup>45</sup>. Vitiated *kapha dosha* and *medadhatu* form the basis of pathogenesis of *prameha*. Further, the vitiation of *pitta* and *vata dosha* is observed as per their etiological factors to manifest respective types. Later on many complications may develop if proper treatment is not given in *purvarupa* and *lakshana* stage<sup>46</sup>.

## Discussion

In *medodusti* (impairment of fat metabolism), there is an excessive accumulation of *medodhatu* in the body, which can lead to blockages in the channels of body and cause obesity and various health issues. *Medodusti* due to *kapha* and other *dosha* with affliction of the urinary channels leads to *prameha*. When abnormal *meda* is accumulated in the subcutaneous tissue, it gives the clinical presentation of obesity and similarly when *abaddha meda* is carried to *basti* along with other *dhatu* or *ojus* and excreted in the urine it produces the manifestation of *prameha*. *Bahudrava shleshma* (*kapha* that contains too much liquid) joins and affects *meda*, causing it to become *abadha* (unobstructed or fluid) in nature. This form of *meda* has been described to have an effect on *mamsa* (muscle tissue), thereby increasing the volume of body fluid. This has been described as *sharira- kleda* (body fluid). The normal function of *abaddhameda* is to produce unctuousness in the body along with compactness. This *abadhatva* (looseness) causes derangement in the structure of *meda* producing *shaithilya* (flabbiness) in the body<sup>47</sup>.

The formation of *meda* depends not only on high consumption but also on the impaired metabolism or less physical activity. Researches shows that sedentary lifestyle, coupled with an excessive intake of sugar-rich substances lead to a build-up of toxins that could be equated to *ama* (or toxins resulting from improperly digested food and metabolic products). This *ama* then leads to the formation of abnormal *meda* (fat). When this resultant *meda* is coupled with vitiated *doshas* and *agni* it provides a favourable atmosphere for the causation of *prameha*<sup>48</sup>.

Management of diseases caused by the vitiation of *medovahasrotasa* should be done on the basis of the method of treatment of *medoroga*. *Nidana parivarjana*, *samshamana* and *samsodhana chikitsa* should be performed. *Jatharagni* and *dhatvagni* should be taken care off. Physical exercise and proper diet are the key factors in treatment.

## Conclusion

The treatment of disease is based on the pathogenesis and the nature of the disease. *Prameha* is a disease related with excess and turbid urine caused by mainly *medadusti*. Obesity may act as a precursor of this disease. The prodromal stage show many symptoms of abnormal *medas*. On the basis of the above facts, it can be concluded that it is necessary to evaluate the *agnimandya* and *medadushti* for appropriate diagnosis and treatment.

## References

1. Sri Madhavakara, Madhava Nidana, Madhukosha Sanskrit Commentary of Srivijayarakshita and Srikanthadatta, Chapter-33, verse-6, <https://niimh.nic.in/ebooks/madhavanidana/?mod=read>
2. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Nidansthan Chapter-6,verse-7, <https://niimh.nic.in/ebooks/ecaraka/?mod=read> Vagbhatta, Astanghridaya, Sarvangsundara of Arundatta , Ayurvedarasayana of Hemadri , Sutrasthan , Chaper-1, verse-13 <https://vedotpatti.in/samhita/Vag/ehrudayam/?mod=read>
3. Sushrut, Sushrut Samhita, Nibandhsangraha Commentary of Dalahan, Nyayachandrika of Gaydas, Sutrasthan, Chapter-15, verse-41 , <https://niimh.nic.in/ebooks/esushruta/?mod=read>
4. Sushrut ,Sushrut Samhita, Nibandhsangraha Commentary of Dalahan, Nyay Chandrika of Gaydas, Sutrasthan, Chapter-4,verse-13 <https://niimh.nic.in/ebooks/esushruta/?mod=read>
5. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Sutrasthan, Chapter-28,verse-13,<https://niimh.nic.in/ebooks/ecaraka/?mod=read>
6. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Cikitsasthan, Chapter-6,verse-12,<https://niimh.nic.in/ebooks/ecaraka/?mod=read>
7. Sushrut, Sushrut Samhita, Nibandhsangraha Commentary of Dalahan, Nyayachandrika of Gaydas, Nidansthan,Chapter-6,verse-4, <https://niimh.nic.in/ebooks/esushruta/?mod=read>
8. Vagbhatta, Astanghridaya, Sarvangsundara of Arundatta, Ayurvedarasayana of Hemadri, Sutrasthan,Chaper-11,verse-26, <https://vedotpatti.in/samhita/Vag/ehrudayam/?mod=read>
9. Sushrut, Sushrut Samhita, Nibandhsangraha Commentary of Dalahan, Nyayachandrika of Gaydas, Sutrasthan, Chapter-15,verse-10 , <https://niimh.nic.in/ebooks/esushruta/?mod=read>
10. Vriddhavagbhata, Astangsangraha, Shashilekha Commentary by Indu, Sutrasthan, Chapter-20,Verse-2,<https://vedotpatti.in/samhita/Vag/esangraha/?mod=read>
11. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta , Sutrasthan, Chapter-19,verse-41,<https://niimh.nic.in/ebooks/ecaraka/?mod=read>
12. Vagbhatta, Astanghridaya, Sarvangsundara of Arundatta , Ayurvedarasayana of Hemadri,Sutrasthan,Chaper-11,verse-4, <https://vedotpatti.in/samhita/Vag/ehrudayam/?mod=read>
13. Bhojani M.K., Sharma Raksha, Joglekar A.A.. Dhatvagni. In: Deole Y.S., eds. Charak Samhita New Edition. 1<sup>st</sup> ed. Jamnagar, Ind: CSRTSDC; 2020. <https://www.carakasamhitaonline.com/index.php?title=Dhatvagni&oldid=42482>.
14. Vagbhatta, Astanghridaya, Sarvangsundara of Arundatta , Ayurvedarasayana of Hemadri,Sutrasthan,Chaper-11,verse-34, <https://vedotpatti.in/samhita/Vag/ehrudayam/?mod=read>
15. Bhojani M.K., Sharma Raksha, Joglekar A.A.. Dhatvagni. In: Deole Y.S., eds. Charak Samhita New Edition. 1<sup>st</sup> ed. Jamnagar, Ind: CSRTSDC; 2020. <https://www.carakasamhitaonline.com/index.php?title=Dhatvagni&oldid=42482>.
16. Vani, Goverdhanam & Prasad, Jsr. (2016). Concept of dhatvagnipaka in ayurvedic perspective in comparison with tissue metabolism. International Journal of Research in Ayurveda & Pharmacy. 7. 92-97. 10.7897/2277-4343.07264.
17. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Sutrasthan, Chapter-21,verse- 5-8, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
18. Bhojani M.K., Sharma Raksha, Joglekar A.A. Dhatvagni. In: Deole Y.S., eds. Charak Samhita New Edition. 1<sup>st</sup> ed. Jamnagar, Ind: CSRTSDC; 2020. <https://www.carakasamhitaonline.com/index.php?title=Dhatvagni&oldid=42482>.



19. Sushrut, Sushrut Samhita, Nibandhsangraha Commentary of Dalahan, Nyayachandrika of Gaydas, Sharirasthan, Chapter-4, verse-12, <https://niimh.nic.in/ebooks/esushruta/?mod=read>
20. Sushrut, Sushrut Samhita, Nibandhsangraha Commentary of Dalahan, Nyayachandrika of Gaydas, Sutrasthan, Chapter-15, verse-5, <https://niimh.nic.in/ebooks/esushruta/?mod=read>
21. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Vimansthan, Chapter-5, verse-8, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
22. Sushrut, Sushrut Samhita, Nibandhsangraha Commentary of Dalahan, Nyayachandrika of Gaydas, Sharirasthan, Chapter-9, verse-12, <https://niimh.nic.in/ebooks/esushruta/?mod=read>
23. Vagbhatta, Astanghridaya, Sarvangsundara of Arundatta, Ayurvedarasayana of Hemadri, Sharirasthan, Chapter-6, verse-1 <https://vedotpatti.in/samhita/Vag/ehrudayam/?mod=read>
24. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Sutrasthan, Chapter-15, verse-17, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
25. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Sutrasthan, Chapter-15, verse-18, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
26. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Nidansthana, Chapter-4, verse-8, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
27. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Nidansthana, Chapter-4, verse-47, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
28. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Nidansthan, Chapter-5, verse-16, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
29. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Sutrasthan, Chapter-21, verse-9, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
30. Agnivesha, Charaka Samhita, Ayurveda Dipika Commentary of Cakrapanidatta, Vimansthan, Chapter-5, verse-16, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
31. Sushrut, Sushrut Samhita, Nibandhsangraha Commentary of Dalahan, Nyayachandrika of Gaydas, Sutrasthan, Chapter-15, verse-14, <https://niimh.nic.in/ebooks/esushruta/?mod=read>
32. Vruddhavagbhata, Astangsangraha, Shashilekha Commentary by Indu, Sutrasthan, Chapter-19, Verse-6, <https://vedotpatti.in/samhita/Vag/esangraha/?mod=read>
33. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Sutrasthan, Chapter-21, verse-3, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
34. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Sutrasthan, Chapter-21, verse-12, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
35. Sushrut, Sushrut Samhita, Nibandhsangraha Commentary of Dalahan, Nyayachandrika of Gaydas, Sharirasthan, Chapter-9, verse-12, <https://niimh.nic.in/ebooks/esushruta/?mod=read>
36. Sushrut, Sushrut Samhita, Nibandhsangraha Commentary of Dalahan, Nyayachandrika of Gaydas, Sutrasthan, Chapter-15, verse-32, <https://niimh.nic.in/ebooks/esushruta/?mod=read>
37. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Sutrasthan, Chapter-21, verse-8, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
38. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Cikitsasthan, Chapter-6, verse-15 <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
39. Pandey A. Ashtauninditiya Adhyaya. In: Dwivedi R.B., Deole Y.S., Basisht G., eds. Charak Samhita New Edition. 1<sup>st</sup> ed. Jamnagar, Ind: CSRTSDC; 2020 [https://www.carakasamhitaonline.com/index.php?title=Ashtauninditiya\\_Adhyaya&oldid=42416](https://www.carakasamhitaonline.com/index.php?title=Ashtauninditiya_Adhyaya&oldid=42416).
40. Sushrut, Sushrut Samhita, Nibandhsangraha Commentary of Dalahan, Nyayachandrika of Gaydas, Sutrasthan, Chapter-15, verse-32, <https://niimh.nic.in/ebooks/esushruta/?mod=read>
41. Chandola H.M., Kajaria D.. *Prameha* Nidana Adhyaya. In: Khandel S.K., Godatwar P., Deole Y.S., Basisht G., eds. Charak Samhita New Edition. 1<sup>st</sup> ed. Jamnagar, Ind: CSRTSDC; 2020. [https://www.carakasamhitaonline.com/index.php?title=Prameha\\_Nidana&oldid=41165](https://www.carakasamhitaonline.com/index.php?title=Prameha_Nidana&oldid=41165).
42. Chandola H.M., Kajaria D.. *Prameha* Nidana Adhyaya. In: Khandel S.K., Godatwar P., Deole Y.S., Basisht G., eds. Charak Samhita New Edition. 1<sup>st</sup> ed. Jamnagar, Ind: CSRTSDC; 2020. [https://www.carakasamhitaonline.com/index.php?title=Prameha\\_Nidana&oldid=41165](https://www.carakasamhitaonline.com/index.php?title=Prameha_Nidana&oldid=41165).
43. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Nidansthan, Chapter-4, verse-51, <https://niimh.nic.in/ebooks/ecaraka/?mod=read> Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Nidansthan, Chapter-4, verse-47, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
44. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Cikitsasthan, Chapter-6, verse-10-11, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
45. Agnivesha, Charaka Samhita, Ayurvedadipika Commentary of Cakrapanidatta, Nidansthan, Chapter-4, verse-47, <https://niimh.nic.in/ebooks/ecaraka/?mod=read>
46. Chandola H.M., Kajaria D.. *Prameha* Nidana Adhyaya. In: Khandel S.K., Godatwar P., Deole Y.S., Basisht G., eds. Charak Samhita New Edition. 1<sup>st</sup> ed. Jamnagar, Ind: CSRTSDC; 2020. [https://www.carakasamhitaonline.com/index.php?title=Prameha\\_Nidana&oldid=41165](https://www.carakasamhitaonline.com/index.php?title=Prameha_Nidana&oldid=41165).
47. Chandola H.M., Kajaria D.. *Prameha* Nidana Adhyaya. In: Khandel S.K., Godatwar P., Deole Y.S., Basisht G., eds. Charak Samhita New Edition. 1<sup>st</sup> ed. Jamnagar, Ind: CSRTSDC; 2020. [https://www.carakasamhitaonline.com/index.php?title=Prameha\\_Nidana&oldid=41165](https://www.carakasamhitaonline.com/index.php?title=Prameha_Nidana&oldid=41165).