



## REVIEW ARTICLE ON MUTRASHMARI

## Ayurveda

**Dr. Rai Trisha**

PG Scholar, Shalyatantra Department, Government Ayurveda College, Nagpur.

**Dr. Kedar Nita**

HOD &amp; Professor, Shalyatantra Department, Government Ayurveda College, Nagpur.

**Dr. Hinge Aniket**

Assistant Professor, Shalyatantra Department, Government Ayurveda College, Nagpur.

## ABSTRACT

'Ashmari' comprises of two words 'Ashma' (stone or gravel) and 'Ari'. *Ashma* means the substance resembling like stone. *Ari* means enemy. *Ashmari* is a disease in which there is formation of stone, exerting great suffering to man like an enemy. *Ayurveda* considered it mainly as '*Mutrashmari*' (Urolithiasis), *Mutrashmari* is one of the most troublesome diseases in our country and pain due to this is worse like labour pain. The disease is included in the *ashtamahagadas*, that is eight major diseases may be owing the potentiality to disturb anatomy and physiology of urinary systems. *Mutrashmari* which is emerging as a sequel to deranged *mutrapravrutti* leading to deterioration in urine secretion and micturition. In this disease, there is development of a calculus, means foreign body in the urinary tract. Pain due to *mutrashmari* is known as most worsen pain than any other conditions. According to *Sushruta*, foreign body in biological system causes pricking pain like a thorn under the category of *shalya*. Now a day various treatment modalities are available but they are very expensive. There is no treatment to stop recurrence of *ashmari*.

## KEYWORDS

## INTRODUCTION:

Urinary disorders have specific identity both in modern science and *ayurveda*. The references of these disorders are seen in *Samhita Granthas* one of them is *mutrashmari*, correlated as urolithiasis or urinary stone or calculus in modern science. *Ayurveda* dealt with many dreaded diseases under the headings of *Mutrakrichra*, *Mutragnaata*, *Mutrashmari* etc. Thousand years before the *Acharya* described the disease *Mutrashmari* and its treatment in detail. *Acharya sushruta* describe its classification, Aetiology, pathology, symptoms, complications and its management in detail.

As per *Acharya Sushruta Asanshodhansheelata* and *Mithya Aahar-Vihar* causes *Kaphadosha prakop aggravated Kapha dosha* by *strotovaigunya* reaches in urinary system and it dries up to form the calculus, and as per *Charaka* when *Vayu* dries up *Shukra*, *Mootra*, *Pitta*, and *Kapha*, *Ashmari* arises gradually like *Gopitta* dries to form '*Gorochana*'. These calculi vary in size from particles like sand to large stone. According to modern science various risk factors have been identified for stone formation. For ex - hot climate, vitamin-A deficiency, excessive intake of vitamin-D, urinary metabolic disorders, hyperthyroidism, gout, idiopathic hypercalciuria, family history of urinary stone, geographic area, dietary factors which are rich in calcium like red meat, fish, pulses and fluoride rich water. The recurrent urinary tract infection also plays an important role as a risk factor. Early recurrence caused due to urinary metabolic abnormalities, hyperoxaluria and hypocitraturia.

*Mutrashmari* affects busy daily routine due to tremendous abdominal pain so it becomes necessary to cure such disease as early as possible. In this globalised world awareness about health is increased but one is unable to pay attention to maintain the optimum health through daily schedule as today's fast life has much impact on everyone. No one want hospitalization or any surgical intervention. This has led man to run behind quick and fast therapies but it gives temporary relief which again disturb the equilibrium of health after short interval. The conventional system offers numerous medicinal, surgical, and other advanced technique like ESWL, PCNL, URS and LASER for the management of urolithiasis having their own merits and demerits

The problem of *Mutrashmari* is very common and affects children as well as adults. The disease of urinary calculus more often seen in poor class people, more commonly seen in males than females. The peak incidence observed in II, III decade. Urolithiasis is a troublesome urinary disorder.

**MUTRASHMARI (Urinary Calculus):**

*Ayurveda* is the ancient science of life. In the *Ayurvedic* text like *Charak Samhita*, *Sushrut Samhita*, *Vagbhat Samhita*. *Mutrashmari* is described as most common and distressing ailment among the group of urinary disorder. *Ashmari* means a disease which act like enemy. widely and comprehensively about its classification, symptoms,

etiology, pathology, complications, very significantly along with its *Chikitsa Upakrama*, also *pathya apathya* is given in the *ayurvedic* text. *Mootrashmari* is considered as one of the *mahagadas*.

*Ashmari* is one of the *mahagadas* because of *Tridoshaj* origin, *Marmashrayee*, it is a fatal disease, as it need surgical intervention and it is a *Kruchhrasadhya* disease. Many *aahar vihara* along with medicine plays important role in the management of *mutrashmari*.

The word *Ashmari* is derived from two words- *Ashma* - Stone like structure, *Ari* - Enemy. *Ashmari* is one of the commonest pathological conditions of *mootravaha srotas*.

**Etymology:**

"*Ashman Rati Dadati Iti Ashmari*" means the formation and presentation of a substance like stone.

1. *Ashman* means stone'
2. *Rati* means to present'

**Synonyms-**Sanskrit - *Ashmari*Hindi - *Pathri*Marathi - *Mutkhada*

English - Stone, calculus and gravel

Latin - Calculus

**Classification of Ashmari<sup>[1]</sup>:**

*Acharya Sushruta* has classified the *Ashmari* into four types-

1. *Kaphaja*
2. *Pittaja*
3. *Vataja*
4. *Shukraja*

*Acharya Charaka* described *mutrashmari* in *Charak Samhita* under *Mutrakrichhra*.<sup>[2]</sup>

In *Madhav Nidan* there is four types of *Ashmari* which are *kapha dosh pradhana*.<sup>[3]</sup>

**Nidan Panchak Of Mutrashmari:****1. Ashmari Nidan**

*Nidana* includes all the etiological factors. the knowledge of *Nidan* plays an important role because the first principle of *ayurvedic* treatment is to avoid *Nidana* and then treat according to the disease character.<sup>[4]</sup>

**According to Acharya Charak :**

1. *Ativyayam* (Excessive exercise)
2. *Atitikshna, atirukshapadarthsevan* (Very spicy and dry food consumption)

- 3 *Atimadhyapana* (Drinking too much alcohol)
- 4 *Adhyashana* (Eating food again also if previous food is not digested)
- 5 *Ajirna* (Indigestion) etc, are the main causative factor in renal calculus.

#### According to *Acharya Sushruta*<sup>51</sup>:

*Asanshodhansheel* means those who did not do *shodhan chikitsa* and also those persons who eat *apathyakar aahara* causes *dosh vrudhi* and responsible for calculus formation.

#### According to *Vagbhata* –

- 1 *Diwaswap* (Daytime sleep)
- 2 *Adhyashana* (Eating food again also if previous food is not digested)
- 3 *Ajeerna bhojan* (Indigested food)
- 4 Intake of excessive heavy, sweat and fatty food

#### 2. *Ashmari Purvarupa*

##### According to *Acharya Sushruta purvarupas* are<sup>161</sup> -

- *Bastipida* (Bladder pain)
- *Avasada* (Depression)
- *Arochaka* (Uninterested in food)
- *Basti, Mushka, shiroshoph* (Bladder, testis oedema)
- *Mutrakruchhra* (Urinary incontinence)
- *Jwar* (Fever)
- *Bastigandha* (Goat like smell in urine)
- *Sandra* and *Awil mutra pravrutti* (Concentrated urine)

#### According to *Acharya Charaka*<sup>71</sup>

In *purvarupa* patient suffers from pain whenever he goes to micturition.

#### According to *Acharya Vagbhat*<sup>91</sup> -

- *Aadhman* (Distension)
- *Mutrakruchhra* (Urinary incontinence)
- *Jwar* (Fever)
- *Aruchi* (Anorexia)
- *Bastyagandh* (Goat like smell in urine)

#### *Ashmari Rupa*:

1. A sort of cruciating pain is experienced either at umbilicus or bladder or at the median raphe of perineum or at the penis at the time of micturition when the stone is forming in the bladder.
2. Pain is experienced in the bladder at the time of running, jumping, swimming, while riding on horse or after a long journey.
3. Urine is stopped at intervals in its outflow or become charged with blood or flows out twisted and scattered like spray, leaving sediment of clear, sandy, red or yellow particles of stone, which resembles a *Gomeda* in colour.

#### According to *Acharya Sushruta*<sup>91</sup>

1. *Nabhi, Basti, Sewani* and *Mehanvedana* (Umbilicus, bladder, penis pain)
2. *Mutra vikirana* (Urinary radiation)
3. *Mutratharasang* (Urine streaming)
4. *Gomedprakash* (Shinning like gomeda gem)
5. *Sasiktam*
6. *Atyavilam*

#### According to *Acharya Charaka*<sup>101</sup>

1. *Gomedaprakasha* (Shinning like gomeda gem)
2. *Vishirmadhara* (Disintegrated stream)
3. *Sarudhiramootra* (Urine with blood)
4. *Basti, Sewani and Mehanavedana*. (Bladder and penis pain)

#### According to *Acharya Vagbhat*<sup>111</sup> –

1. *Visharnadhara* (Disintegrated stream)
2. *Gomedakabham mutra* (Shinning like gomeda gem)
3. *Guda, nabhi, shevni, bastiruja* etc. (Anal, umbilicus and bladder pain)

#### SAMPRAPTI (PATHOGENESIS)

It is the process which starts from *Sanchayavastha* of *Doshas* to the *Vyadhi Vyaktavastha*. It is easy to assess the *Dosha, Dushyas, Srotodushiti* or *Khavaigunya* etc. Proper treatment is only fruitful if it is applied according to *Samprapti* of disease.

#### According to *Acharya Charak*<sup>121</sup>–

Due to *Vata-prakopaknidana*, *Vata* increases and dries up the urine in *Basti*, which in association with *Shukra, Pitta* and *Shleshma* forms *Ashmari*. *Charaka* explained the process of formation *Ashmari* as similar to that of *Gorochana* in the *Pittashaya* of cows.

#### According to *Acharya Sushruta*<sup>131</sup>–

Defective *Shleshma* mixes with *Mutra* and enters in the *Basti* and give rise to *Mutrashmari*. As the *mutra* enters *Basti*, the same way *Shleshma, Pitta* and *Vata* enter into *Basti* and by *Upsnehan Nyaya*, it gives rise to *Mutrashmari*. A new pitcher filled with clear water can also show some muddy particles settling down in due course of time. In the same way the *Calculi* are formed in *Basti*.

#### According to *Acharya Vagbhata*–

*Vata*, obstructed at *Bastidwara*, dries the *mutra* which mixed with *kapha, pitta* and *shukra* leading to formation of *Mutrashmari*.

#### *Shatkriyakala* Of *Mutrashmari*:

*Shatkriyakala* is the process by which diseases occurs in our body. It is the six-stage process which involved different symptoms of the diseases according to *dosha*. It is also giving idea about treatment. Every stage has its own treatment. *Sushruta* said that the exact knowledge of these stages is the only path to reach up to the disease or treatment.

#### 1. *Sanchaya*<sup>141</sup>:

*Sanchaya* is the stage when *Doshas* accumulate in their *Aashayas* due to various etiological factors. The excess accumulated *Doshas* in case of *Ashmari* develop the following symptoms–

- a. Anorexia
- b. Feeling of Pyrexia
- c. General debility
- d. Discomfort in hypogastrium
- e. Fullness and stiffness of abdomen
- f. Concentrated urine
- g. yellow tinge of the skin etc.

*Acharya* described *Sanchaya awastha* is *helpful* for the prevention of the upcoming disease, it means that the treatment should start as soon as the symptoms of first *kriyakala* seen.

#### 2. *Prakopa*<sup>151</sup>:

It occurs when we didn't take proper steps in *Sanchay awastha*. In *Prakop awastha*, *dosha* are continued to accumulate due to continue intake of causative factor and undergo a suffering condition.

All symptoms of *sanchaya awastha* with more prominence and in addition to them happening in a patient likely to suffer from *Ashmari* are as follows–

- a. Pain over the bladder region, anal area and testicular region
- b. Painful micturition with thickness
- c. Thirst
- d. Nausea

#### 3. *Prasara*<sup>161</sup>:

In *Prasara awastha*, the accumulated *Doshas* overflow and move all over the body after leaving their *Aashayas* under the influence of *Vayu* in search of weak spot in the body for their restraint.

It is a progressive stage of *prakopa awastha*. The following symptoms develop to a patient going to suffer from *Ashmari*–

- a. *Anaha* and atopia
- b. *Daha*
- c. Burning micturition
- d. Anorexia
- e. Frequent pain in supra pubic region
- f. Dysuria
- g. Pain in the testicles

#### 4. *Sthansamshraya*<sup>171</sup>:

In this *avastha prakupitdosha* are circulate over all body and they interact were *khavaigunya* present. '*Dosha - Dushya Sammurchhana*' is known as *Sthansamshraya*. In this stage we get the *purvarupa* of the diseases. The previously irritative and desiminated *doshas* may finally settle down at a place where they find *khavaigunya*. *Acharya* said that if we focus to the *purvarupa* of the diseases and treat accordingly then it well helps to get relief from diseases.

Symptoms are -

- Dysuria
- Fever
- Pain in the bladder region
- Anorexia
- Goat like smell in urine
- Pain at bladder neck region, the scrotum and penis.

### 5. Vyakti:

It is called as *Rupawastha*, here the disease comes out with clear picture. The disease can be easily identified and one can do proper diagnosis and treatment.

The patient feels following symptoms in this stage -

- Excruciating pain in umbilical region during micturition
- Pain at bladder region, median raphe and penis
- Obstruction in urinary process
- Haematuria
- Sandy and turbid urine, shining like Gomed gem

### 6. BHEDA:

It is the stages where disease shows its *doshpradhanyata* according to types. The condition where the disease takes one of the two natural courses either spontaneous subsiding or leading to chronicity. It is the last stage of management means it is suggestive stage for the complication and the prognosis of the disease.

We give treatment according to *dosh pradhanta* and diseases divide in multiple types by *dosh pradhanyata*. If the disease leads to chronic phase then the patient complains of obstruction in urinary outflow involving the upper urinary system due to backward pressure.

### UPSHAYA-ANUPSHAYA:

The factors which relieve the signs and symptoms of disease are called as *Upshayas*, while the factors which aggravate the disease are called as *Anupshayas*.

None of the Ayurvedic texts have mentioned about *Upshaya-Anupshaya* in relation to *Mutrashmari*. But the main factor involved in formation of *Ashmari* is *Kapha dosha*.

Hence, all those factors which increase the *kaphadosha* in our body are the risk factor called as *anupshaya* and those which reduce the *kaphadosha* are *upshaya*.

### Classification Of Ashmari

#### According to Acharya Sushruta<sup>[18]</sup> –

*Mutrashmari* is classified into four types-

- Shleshmaj*
- Pittaj*
- Vataj*
- Shukraj*

#### According to Charak<sup>[19]</sup> –

*Mutrashmari* is classified into two types-

- Mridu - Kapha, Shukra*
- Kathina – Pitta, Vata*

According to types of *Mutrashmari* the symptoms are also different which are -

#### Kaphaja Ashmari<sup>[20]</sup>:

When we eat *kaphaja aahar* more than its normal requirement then it causes imbalance of *kapha dosha* and develop *ashmari*. Specific factors are localised in the bladder neck and obstruct the passage. Following symptoms are there

- Heavy and cold sensation in bladder area
- Cutting or pricking pain
- White, slimy and big like *Kukkutand*
- Colour-*Madhukpushpawat*

#### Pittaja Ashmari<sup>[21]</sup>:

When *pitta dosha* become the dominant *dosha* in the *samprapti* of *ashmari* accumulated in the urinary system and precipitate specially at bladder neck and obstruct bladder outlet. Due to obstruction to the flow of urine results in symptoms of *pittaja ashmari*.

- Pain
- Haematuria
- Colour- Honey like

- resembles *Bhallataka* seed Nodular like *Kadamb-pushpa*
- Burning sensation and inflammatory changes in urinary tract may happen.

#### 3. Vataja Ashmari<sup>[22]</sup>:

When *vata* become dominant obstruct *basti* neck in all *tridosha* then it gives following symptoms -

- Severe pain at bladder
- Umbilical and anus pain
- Dysuria
- Frequently passes urine in small quantity
- Difficulty in defaecation

#### 5. Shukraja Ashmari

*Shukraja ashmari* is the unique terminology of *Ayurveda*. This type of *ashmari* developed due to disturbance in the *Shukra dhatu*. It is developed by *shukra dhatu* so its called *shukrashmari* and it gives following symptoms.

- Dysuria
- Scrotal swelling
- Lower abdominal pain
- The stone can be crushed into powder by pressure.<sup>[23]</sup>

This usually occurs in adults only. An injury to urinary tract during sexual act, frequent coitus, coitus interrupts, supuration of ejaculation, when a person suppresses his natural sexual urge for a long time or indulges in excessive sexual intercourse. The seminal fluid instead of expelling out of body get diverted in opposite direction and get trapped by *vayu* and accumulates in between penis and testicles, where it gradually dries up. The formed *Shukrashmari* blocks the urinary outflow, which results in dysuria, pain at bladder. It is spermiolith, which gets disintegrated on massaging the obstructed path and outflow of urine get resumed.<sup>[24]</sup>

#### Sadhya-asadhyatwa:

In our *Samhita's*, *Acharyas Sushrut* mentioned *ashmari* in *ashtamahagada* and these *mahagadas* are not easy to treat and they are not having good prognosis. It requires great attention to cure it. In young patient *Mutrashmari* is *sadhya* because of the smaller space occupying lesion and less fat in subcutaneous and perinephric region, the prognosis is better.<sup>[25]</sup>

Similarly, early diagnosed *Ashmari* can be treated with medicines without any surgical treatment because of its small size, while the *Ashmari* of long-time origin is difficult to cure. Large size *ashmari* is also an indication for surgical treatment.

#### Upadravas:

Three main *upadravas* of *Ashmari* describe by *acharya sushruta* are<sup>[26]</sup> -

- Sharkara Meha*
- Sikata Meha*
- Bhasma Meha*

- Burning like feeling in chest
- lower back pain,
- pain in abdomen,
- tremors, thrust,
- general weakness etc.<sup>[27]</sup>

also, loss of appetite, haematuria, weakness in the lower limbs, pain in the flanks, shivering, thirst, indigestion, pale body and pain in the pericardium.<sup>[28]</sup>

#### SHARKARA<sup>[29]</sup>:

*Sharkara, Sikata* and *Bhasma* are the types of *Meha* and derived from *Ashmari*. Features of *Sharkara* and *Ashmari* are same. When *Ashmari* is smaller in size and *vata* is *Anulom* then it passes out with the flow of urine. But when *vata* is *Pratilom* it gets obstructed.

#### Management Of Ashmari:

In all the diseases the general principal of management is to avoid the factors which are responsible to cause the disease called as *Nidan Parivarjan*. *Ashmari* being a *kaphaj* predominant disease all the treatment to control *kapha* can be assumed.

*Sushruta* has describes *chikitsa* of *ashmari* that, in early stage it is treated by *Aushadhi chikitsa* while in late stage, surgery should be done. It includes *snehadi karma* in poorvaroop stage of *ashmari*,

*snehadi karma* includes *snehana*, *swedana*. As *ashmari* is *tridoshaj vyadhi shodhan* therapy advised in *mootrakricchra* is to be adopted, *abhyanga* by *vatahara*, *upanaha*, *parisheka tailas*, *niruh basti*, *uttarbasti* with *vatahara tailas*, *niruh basti*, *uttarbasti*, *upanaha*, *parisheka*, with *vathara tailas* or *kwathas* are carried out.

Acharya *Sushruta* has advised various herbal drugs to treat the disease in the *Purvarupa* stage. Also, acharya used many types of *kshara* to manage *Mutrashmari*. These are *yavakshara*, *apamargakshara*, *kadlikshara*, *palashkshara* etc. He has described following drugs depending upon the varieties of *Ashmari*. *Varun*, *Pashanbhedha*, *talimkhana*, *gokshur*, *punarnava*, *kusha*, *Kasha*, *Guggul*, *Ikshumool*, *Elaichi*, *Kushtha*, *Shatavari*, *Ashmantak*, *Devdaru*, *Haridra*, *Brihati*, *Maricha*, *Kantakari*, *Patha*, *Kulattha* etc.<sup>[30]</sup>

### Surgical Intervention/ *Shastra Karma*<sup>[31]</sup>:

As per *sushruta*, the line of surgical treatment must be employed in the *ashmari* of *pravruddhavastha*, if all measures previously mentioned gets failed, *acharya* described surgical treatment. So, skilled surgeon should perform such operations only with due explanation and permission of the King or Guardian.

### *Pathya-apathya*<sup>[32]</sup>

Acharya *Sushruta* has not described *Pathya-apathya* but *Charaka* has mentioned about it.

### Pathya

1. *Aahar- Yava, Kulattha, Mudga, Aadrak, Vatnashak aahara* etc.
2. *Vihar- Basti, Vamana, Virechana, Langhana, Avghaha Sweda* etc.

### Apathya

1. *Aahar- Shushkaaahar, Kapittha, Jamun, dry dates, kashayrassevana* etc.
2. *Vihar- Ativyayam*, suppression of micturition, incompatible, constipation and heavy diet.

It is a dreadful disease which is correlated with *Yama*- the God of Death. In early stage, it can be treated with medicines, but longstanding *Ashmari* needs surgical intervention.

### DISCUSSION:-

*Mutrashmari* is included under eight grave disease mentioned by *Brihatrayi*. *Mutrashmari* is presence of stone in *mutravahasrotas*. Urolithiasis means presence of stone in urinary system. *Ayurveda* explains several lifestyle ways to prevent the occurrence of *Mutrashmari*. *Ashmari* is a dreadly disease and pain is intolerable and often so irritant that it disturbs normal day to day activities of patient. Main cause of formation of stone is change in food habits, sedentary life, geographical conditions, consumption of salty foods and less intake of water and these causes can worsen the disease also. *Ayurveda* has various treatment by using herbs, ayurveda formulation and *kshara* etc. *Aahara- Vihara* also plays a vital role in treatment and prevention of disease. *Mutrashmari* is also known as Urolithiasis in modern science. *Ayurveda* literature gives a clear idea of disease and also its prevention and treatment.

### CONCLUSION:-

This study concludes that all the symptoms and treatment modalities of *Mutrashmari* which not only cure the disease and prevent it through various type of treatment as *Nidanparivarjan*, *Sanshodhan*, *Sanshaman* and *Shastra karma*. *Ayurvedic* review deal with *Nidan*, *Samprapti*, *Purvarupa*, *Rupa*, *Lakshan* and *Updravas* of *Mutrashmari*. We can decrease and manage the increasing problem of *Mutrashmari* through modifying lifestyle, purification therapy and medication.

### REFERENCES:-

1. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Nidansthan 3/3, Pg no.311
2. Dr. Brahmanand Tripathi, Charak Samhita, Charak Chandrika, Chaukhambha Sanskrit Sansthan, Varanasi 1996, Chikitsasthan 26/36, Pg No.870
3. Dr. Brahmanand Tripathi, Madhav Nidan, Madhukoshitika, Chaukhambasurbharati Prakashn, Varanasi 2007, Ashmarindan 1, Pg No.638
4. Dr. Brahmanand Tripathi, Charak Samhita, Charak Chandrika, Chaukhambha Sanskrit Sansthan, Varanasi 1996, Chikitsasthan 26/32, Pg No.869
5. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurvedtatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Nidansthan 3/4, Pg no.311
6. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Nidansthan 3/5, Pg no.311
7. Vaidya YadavjiTrikamji Acharya, Charak Samhita by Chakrapanidatta, Chaukhamba Prakashan, Varanasi Chikitsasthan 26/33 pg no.599
8. Dr. GaneshKrishnaGarde, SarthVagbhataChaukhambhaSurbharatiPrakashan, Varanasi. Nidansthan 9/7,8 pg no.188

9. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Nidansthan 3/7, Pg no.312
10. Vaidya YadavjiTrikamji Acharya, Charak Samhita by Chakrapanidatta, ChaukhambaPrakashan, Varanasi Chikitsasthan 26/37-39 pg no.599
11. Dr.Ganesh Krishna Garde, SarthVagbhata Chaukhambha Surbharati Prakashan, Varanasi. Nidansthan 9/9,10 pg no.188
12. Vaidya YadavjiTrikamji Acharya, Charak Samhita by Chakrapanidatta, Chaukhamba Prakashan, Varanasi Chikitsasthan 26/26 pg no.599
13. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurvedtatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Uttartantra 58/9, Pg no.540
14. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurvedtatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Sutrassthan 21/18, Pg no.117
15. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurvedtatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Sutrassthan 21/27, pg no.119
16. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurvedtatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Sutrassthan 21/32, pg no.120
17. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurvedtatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Sutrassthan 21/33, pg no.120
18. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurvedtatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Nidansthan 3/3, pg no.311
19. Dr. Brahmanand Tripathi, Charak Samhita, Charakchandrika, Chaukhamba Sanskrit Prakashan, Varanasi. Chikitsasthan 26/76 Pg. no.878
20. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurvedtatvasandipika, chaukhamba Sanskrit sansthan Varanasi2009 Nidansthan 3/8, pg no.312
21. Kaviraj Dr. Ambika dattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Nidansthan 3/9, pg no.312
22. Kaviraj Dr. Ambika dattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Nidansthan 3/10, pg no.312
23. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Nidansthan 3/12, pg no.313
24. Vd. Harishastri Paradkar, Ashtanga hradaya, sarvang sundartika, Chaukhamba Sanskrit sansthan, Varanasi 1995 Nidansthan 9/16 Pg. No.499
25. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Chikitsasthan 7/3, pg no.52
26. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Nidansthan 3/13,14 pg no.313
27. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Nidansthan 3/15 pg no.313
28. Kaviraj Dr. Ambika dattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Nidansthan 3/16 pg no.313
29. Dr. Ganesh Krishna Garde, Sarth Vagbhata Chaukhambha Surbharati Prakashan, Varanasi. Nidansthan 9/18,19 pg no.189
30. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Chikitsasthan 7/14-16, pg no.53
31. Kaviraj Dr. Ambikadattashastri, Sushruta Samhita Ayurved tatvasandipika, chaukhamba Sanskrit sansthan Varanasi 2009 Chikitsasthan 7/27-28, pg no.53
32. Dr. Brahmanand Tripathi, Charak Samhita, Charakchandrika, Chaukhamba Sanskrit Prakashan, Varanasi. Chikitsasthan 26/76 Pg. no.878