



E ISSN 2350-0204

# IJAPC

VOLUME 11 ISSUE 3 2019

[www.ijapc.com](http://www.ijapc.com)  
Greentree Group Publishers (GGP))



## Conceptual Study on *Shuklagata Roga* involving *Sira* with special reference to Episcleritis and Scleritis

Mansi<sup>1\*</sup>, Nirma Bansal<sup>2</sup>, Rajendra Kumar Soni<sup>3</sup> and Garima Srivastava<sup>4</sup>

<sup>1-3</sup>Department of Shalaky Tantra, National institute of Ayurveda, Jaipur, Rajasthan, India

<sup>4</sup>R B Ayurvedic College, Agra, U.P., India

### ABSTRACT

Ayurveda is a science of life which deals with healthy as well as diseased stage of body. As per disease description, ophthalmic portion is widely discussed by Acharya Sushrut under the special branch known as *Shalaky Tantra*. Acharya Shusrut has described 76 types *Netra Rogas*, among them there are 11 *Shuklagata Rogas*. Acharya Vagbhatt has described total 13 diseases in *Shukla Mandala* in which there are four diseases affecting *Sira* viz. *Sirajala*, *Sirapidika*, *Sirotpata* and *Siraharsha*. *Shukla Mandala* is the white part of eye which resembles with sclera along with episclera, tenon's capsule and bulbar conjunctiva. Episcleritis and scleritis are the inflammatory diseases affecting this white portion (*Shukla Mandala*). In the present study, a review is presented on etiopathogenesis of *Sira* related *Shuklagata roga* to enlighten their correlation on the basis of location, pathogenesis and clinical features with episcleritis and scleritis and to find an effective management option for episcleritis and scleritis through Ayurveda.

### KEYWORDS

*Sirajala*, *Sirotpata*, *Siraharsha*, Episcleritis, *Scleritis*



**Greentree Group Publishers**

Received 02/09/19 Accepted 08/11/19 Published 10/11/19



## INTRODUCTION

Acharya Sushrut has described 11 types of *Shuklagata Roga* among the 76 *Netra Rogas*. Among the 11 *Shuklagata Roga*, two diseases involve *Sira* i.e. *Sirajala* and *Sirapidika*<sup>1</sup>. Acharya Vagbhatt has described total 13 diseases in *Shukla Mandala* in which there are 4 diseases related to *Sira* viz. *Sirajala*, *Sirapitika*, *Sirotpata* and *Siraharsha*<sup>2</sup>. Acharya Sushrut has enumerated *Sirotpata* and *Siroharsha* among *Sarvagata Netra Rogas*<sup>3</sup>. According to modern ophthalmology, the sign and symptoms of these four diseases can be correlated with the inflammatory conditions of sclera i.e. episcleritis (superficial) and scleritis (deep). Both the diseases might equally well be considered as mild and severe forms of the same disease, but the distinction is convenient since they differ in their evolution<sup>4</sup>.

### • *Sirapidika*

It is a white colored nodular swelling covered by *Sira* (blood vessels) in *Shukla Mandala* lying close to the *Asita mandala* (i.e. cornea)<sup>5</sup>. According to Acharya Vagbhatt, *sirapitika* is *Sarshapopama* (white mustard seed shaped) *pitika* covered by blood vessels located near the *Krishna mandala* along with symptoms of *Daha* (burning sensation) and *Gharsha* (Foreign

body sensation) in the eyes<sup>6</sup>. It is *Sannipataja* and *Chedana Sadhya Vyadhi*.

### • *Sirajala*

It is defined as a network of *Kathina* (hard), *Mahan* (large), *Srakta* (filled with excess blood or congested) *Sira* (blood vessels) in *Shukla mandala*<sup>7</sup>. Similarly Acharya Vagbhatt has described *Sirajala* as *brihat* (large), *rakta* (red colored/ congested), *Ghana* (thick), *unnatam* (elevated) network of blood vessels<sup>8</sup>. It is *Raktaja* and *Chedana Sadhya* disease.

### • *Sirotpata*

It is a condition which may be painful or painless and in it the *Akshiraji* (eye blood vessels) becomes coppery red in color and after sometime turns to normalcy. This occurs repeatedly and diffusely (*samantada*)<sup>9</sup>. According to Acharya Vagbhatt, due to vitiation of *Rakta*, *Shukla Mandala* is full of *Raktaraji* (congested blood vessels) along with the symptoms of *Ushayate* (burning sensation), *svedanam* (pain), *Ashopha* (mild or no swelling), *ashrupdeham* (tearing or watering of eyes)<sup>10</sup>. It is *Raktaja* and *Vedhana Sadhya Vyadhi*.

### • *Siraharsha*

if *Sirotpata* is neglected it leads to *Siraharsha* in which there will be *tamra* (copper), *accham* (clear). *Asram* (red), *pragadham* (thick) discharge from the eyes



and lastly loss of vision<sup>11</sup>. Similarly *Aacharya Vagbhatt* has explained that if *Sirotpata* is left untreated, the blood vessels become more prominent and congested and leads to *Siraharsha* and the eyes becomes unable to see<sup>12</sup>. It is *Raktaja* and *Vedhana Sadhya Vyadhi*.

#### • Episcleritis

It refers to benign recurrent inflammation of the episclera, involving the overlying Tenon's capsule but not the underlying sclera<sup>13</sup>. It can be simple in which all or part of the episclera is diffusely inflamed, or nodular, in which inflammation is confined to a localized area with the presence of a well-defined red nodule. Symptoms includes redness, discomfort in eyes, grittiness and photophobia may occur. Visual acuity is almost always normal. It is usually transient and self-limiting condition lasting several days or some weeks but nodular episcleritis tends to be more symptomatic and takes longer time to resolve. In mild cases diseases can be treated with cold compresses and artificial tears. If moderate to severe, a mild topical steroid relieves the discomfort and inflammation. In cases where topical treatment is unsuccessful oral NSAIDS may help<sup>14</sup>.

#### • Scleritis

It is a much less common condition than episcleritis and covers a spectrum ranging in severity from trivial self-limiting episodes to a necrotizing disease that may involve adjacent tissues and threaten vision<sup>15</sup>. It is characterized by oedema and cellular infiltration of the entire thickness of the sclera. It is bilateral condition and occurs most frequently in women. Clinically it is classified in two types- anterior and posterior scleritis. Anterior scleritis is further divided into non-necrotizing diffuse, non-necrotizing nodular, necrotizing with inflammation and necrotizing without inflammation. In non-necrotizing nodular scleritis, one or more dark red or bluish nodule appears with less circumscribed and later becomes purple and semitransparent. In the diffuse type, hard whitish nodules with size of pin's head may develop in the inflamed zone and they disappear without disintegrating. There is no ulceration but the sclera is thinned. Necrotizing scleritis is associated with scleral necrosis, severe thinning and melting in severe cases. Necrotizing scleritis with inflammation presents with a red, painful eye and may be associated with anterior uveitis and is usually a part of systemic autoimmune disease. Necrotizing scleritis without inflammation is called scleromalacia perforans and occurs in patients suffering from seropositive



rheumatoid arthritis. There is painless scleral thinning with melting in severe cases. In posterior scleritis there is thickening of posterior sclera which may start primarily posteriorly or an extension of anterior scleritis. The clinical presentation is varied and usually misdiagnosed. Patient presents with decreased vision with or without pain, proptosis or restricted ocular movements. There may be present disc edema, macular edema; choroidal folds, choroidal detachment, uveal effusion syndrome and exudative retinal detachment<sup>16</sup>. Complications of scleritis include sclerosing keratitis, keratolysis, complicated cataract, secondary glaucoma<sup>17</sup>, uveitis, hypotony, perforation<sup>18</sup> etc. Treatment modalities for scleritis mainly include oral NSAIDS, corticosteroids and immunosuppressive agents.

## DISCUSSION

### On the basis of site of disease

From modern anatomical aspect, white portion of eye includes sclera along with episclera, tenon's capsule and overlying bulbar conjunctiva. Acharya Sushrut has stated that the two diseases *Sirajala* and *Sirapidika* are located in *Shukla Mandala* (white portion of eye) and rest of two

diseases *Sirotpata* and *Siraharsha* involve not only *Shukla Mandala* (sclera) but also other mandalas (coats) of eye i.e. choroid and retina. That's why *Sirotpata* and *Siraharsha* are explained in *Sarvagata Rogas*. This shows that the way of anatomical description of eye followed by Acharya Sushrut is anterior to posterior. Modern description of scleritis also supports the above statement by involving other ocular structures during its complications such as glaucoma, uveitis, cataract etc. Moreover signs of posterior scleritis like macular edema, choroidal folds, choroidal and retinal detachment also indicate toward involvement of deeper coats.

### On the basis of *Doshika* Dominance

During description of *Indriya Utpati* (development of senses), Acharya Vagbhatta has explained that *Indriyas* are the essence of *Kapha- Raktavaha srotas* and *Mahabhoota*. In *Netra*, *Shukla Mandala* is formed by the essence of *Sleshma (Kapha)* and it comes under *Pitrija bhava*<sup>19</sup>. It is having predominance of *Jala Mahabhoota*<sup>20</sup>. So *Kapha* is the predominant *Dosha* in *Shukla Mandala* having *Dharana, Bandhana* (holding body entities together) and *Sthirtva* (stability by maintaining molecular union) properties<sup>21</sup>. From modern anatomical aspect, sclera is composed of the collagen fibres, elastin,



proteoglycans and glycoproteins<sup>22</sup> that provide a structural support to the whole eye. Hence the composition of sclera indicates its similarity toward *Kapha* dominancy. The vascular nature of episclera and conjunctiva indicates towards involvement of *Agni Mahabhoota*. Therefore, *Pitta* is considered as *Anubandha Dosha*.

#### **On the basis of Pathogenesis/Samprapti**

Most of the etiological factors in episcleritis are localized with very less systemic association. In episcleritis, there occurs localized lymphocytic infiltration of episcleral tissue associated with oedema and congestion of overlying Tenon's capsule and conjunctiva<sup>23</sup>. Similarly in *Sirajala* and *Sirapidika*, *Nidanas* like *Usanabhitaptasya*, *Raja-Dhoom nishevan* are the local irritating factors which cause vitiation of *Sthanika Rakta Dhatu* and manifest the diseases.

Scleritis is found in association with multiple conditions such as- autoimmune collagen disorders, metabolic disorders, infections, granulomatous diseases, after ocular surgery, Bechet's disease, rosacea, chemical burns etc<sup>24</sup>. Histopathology may show granulomatous or non-granulomatous inflammation, vasculitis and scleral necrosis<sup>25</sup>. This etio-pathogenesis of scleritis reflects the affection of whole body (*Sarvadaihika Prabhava*). In *Sirotapata*

and *Siraharsha*, *Samanya Nidana* of *Netra roga* like *Shukta-Arnala-Amla-Kulatha-Masha nishevan*, *Aatapa sevana* etc. causes provocation of *Pitta Dosha* which leads to *Rakta Dushti*. *Achaksushya* and *Agni-dushtikara Nidana Sevana* causes *Mandagni*. It leads to *Aama* formation which further causes vitiation of *Doshas* and *Dushita Chala Dhatu* (i.e. *Rasa* and *Rakta*) formation. These vitiated *Doshas* and *Chala Dhatus* migrate into the whole body and also ascends towards the *Urdhavajatrubhaga* through *Siras*. Here *Khaivagunyya* in *Shukla Mandala* and *Abhyantra mandala* of *Netra* already present and thus *Sthanasanshraya* occurs and *Dosha Dushya Sammurchana* takes place which results in manifestation of *Lakshana* of *Sirotapata* and *Siraharsha*. Thus the *Samprapti* shows that *Sirotapata* and *Siraharsha* have *Sarvadaihika* affection and it justifies the *Sarvadaihika Chikitsa Siddhanta* mentioned for *Samprapti Vighatana* of *Sirotapata* and *Siraharsha*.

#### **On the basis of clinical features/ Lakshana**

*Sirapidika* is characterized by *Sarshapopama* nodular swelling covered by blood vessels in *Shukla Mandala* located near to the cornea which simulates with nodular episcleritis as described above. *Sirajala* is defined as a network of hard,





large and congested blood vessels in white portion of eye (*Shukla Mandala*) which resembles with diffuse episcleritis in modern parlance. In *Sirotpata* congested blood vessels appear in the eyes with or without pain for a moment and then clear spontaneously. The word *Utpata* means destroying<sup>26</sup> that can be considered as necrosis of the tissue that leads to thinning of scleral tissue. Therefore *Sirotpata* can be correlated with non-necrotizing as well as necrotizing scleritis. If this condition is neglected, it leads to worsening of clinical features and lasts as loss of vision because of involvement of posterior segment of eye such as choroid, retina etc. Hence *Siraharsha* can be considered as posterior scleritis. In this way, these four diseases – *Sirapidika*, *Sirajala*, *Siraharsha* and *Sirotpata* can be considered as the advanced stage of one another respectively. Similarly in modern science it is described that scleritis resembles episcleritis pathologically, but extends more deeply, the essential difference being a dense lymphocytic infiltration deep within the scleral tissue<sup>27</sup>.

#### **On the basis of treatment/ Chikitsa**

In the treatment of *Sirajala* and *Sirapidika*, all Aacharyas have mentioned that the veins which are hard and do not respond to drugs of scraping action, the treatment is same as of *Arma* i.e. *Chedana chikitsa*<sup>28</sup>. Treatment

of *Sirotpata* and *Siraharsha* is similar to that of *Raktaja Abhisyanda*. It involves *Virechana*, *Raktamokshana*, *Shirovirechana* as internal purification measures and *Parisheka*, *Pradheha*, *Anjana*, *Aschyotana*, *Tarpana*, *Putpaka* etc. as local therapeutic measures<sup>29</sup>.

As described by Aacharyas, all the above four diseases have *Rakta Dushti* and affects *Sira* which is the passage for flow of *Rakta*. In *Sirapidika* and *Sirajala*, *Kapha* is the *Sthanika Dosha* i.e. *Ashraya* and *Rakta* is in *Prakopa awastha* i. e. *Ashrayi*. According to *Ashraya-ashrayi Chikitsa* principle, the treatment of *Sirapidika* and *Sirajala* should be *Kapha-Rakta shamaka*. During treatment of *Sirapidika* and *Sirajala*, Aacharya Sushrut has concentrated mainly on the site of the disease manifestation. Moreover both the diseases have also features of *Netra Aamavastha* like- *Raga*, *Shopha*, *Gharsha*, *Shoola*, *Ashru*<sup>30</sup> etc. , therefore along with *Sthanika chikitsa Aama pachana* treatment should also be added. By following the principle of *Khale Kapota Nyaya*, Aacharya has chosen the drugs having *Lekhana* properties for local procedures which keeps the *Sthanika Kapha Dosha* in *Samyavastha* and pacifies the *Prakoopita Rakta Dosha*. If these diseases still persist then *Chedhana Karma* is indicated.



*Sirotpata* and *Siraharsha* are more advanced diseases in comparison to *Sirapidika* and *Sirajala* because of involvement of other deeper ocular structures (*Mandala*) along with scleral tissue and having systemic association. Therefore, during their treatment *Sarvadaihika Chikitsa* has important role along with *Sthanika chikitsa* by following *Kedari Kulya Nyaya*. In *Sirotpata* and *Siraharsha*, there is active involvement of vitiated *Rakta* which is having similarity with *Pitta*. During description of *Netra Panchbhautika* composition Aacharya Sushrut has stated that *Rakta* is having predominance of *Agni Mahabhoota (Agnito Raktam)*<sup>31</sup> and *Agni* is directly related with the *Pitta*. Therefore, it can be stated that in *Sirotpata* and *Siraharsha*, *Ashraya* is *Pitta* and *Ashrayi* is *Rakta*. Thus line of treatment for *Sirotpata* and *Siraharsha* should be *Pitta-Rakta Shamaka*. Aacharya Charak has mentioned in *Vidhishonitiya* chapter that for treatment of *Raktaja* disorders, *Raktapittahara* treatment should be given which includes *Virechana*, *Langhana*, and *Raktmokshana*<sup>32</sup>. Initially *Langhana* and *Aampachana* treatment should be given for the pacification of *Sthanika* vitiated *Kapha Dosh*a and *Aama Dosh*a. *Snehpana* should be given with *Tikta Aushadhi siddha Ghrita* in *Poorvakarma* of *Virechana*. *Virechana*

*Yoga* can be prepared from *Kwatha* (decoction) of *Abhaya*, *Pippali* and *Draksha*. According to Ayurveda principle, *Dushita Pitta* is excreted out of body by *Virechana*. *Rakta* has the same qualities as of *Pitta* therefore the vitiated *Gun*as of *Pitta* reduced by *Virechana* also reduces the vitiating *Gun*as of *Rakta* which were causing the disease. Orally the drugs like *Manjistha*, *Kutki*, *Aarogyavardhini Vati*, *Shadanga Guggulu* and *Kwatha* prepared from *Mridwika*, *Madhuka*, *Devdaru*, *Chandan*, *Triphala*, *Ikshu*, *Lodhra* and *Daruharidra* with honey can be used. In cases of severe inflammation, *Nimba bhavita Godanti Bhasma* should be used. For local application, *Tikta Ghrita Anjana* or *Anjana* with unequal quantity of *Madhu* and *Ghrita* can be used. All the drugs described above have *Rakta shodhaka* and *Rakta-Pitta Shamaka* properties thereby helps in reducing the sign and symptoms of episcleritis and scleritis.

Here *Krimichikitsa* should also be adopted to treat the recurrence of the disease because of involvement of *Raktaja Krimi*. For *Raktaja Krimi Chikitsa*, *Panchakarma* can be performed with in a single day followed by *Rakta Shodhaka* medicines<sup>33</sup>.





## CONCLUSION

It can be concluded from the above review that white portion of eye (sclera along with episclera, tenon's capsule and bulbar conjunctiva) can be compared with *Shukla Mandala* and its inflammatory diseases i.e. episcleritis and scleritis can be correlated with *Sirapidika*, *Sirajala*, *Siraharsha* and *Sirotpata* on the basis of similarity in their clinical features. These four diseases can be considered as advanced stage of one another. *Chikitsa Siddhanta* described for *Sirapidika*, *Sirajala* and *Siraharsha*, *Sirotpata* described above can prove very beneficial and effective therapeutic measures for episcleritis and scleritis to prevent their recurrence, drug side effects and complications.



## REFERENCES

1. Sushrut, Sushrut Samhita (2009), Ayurveda Tattva Sandipika Hindi commentary by Kaviraja Ambikadutta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Uttara Tantra, Chapter 4, Shloka no.3-4, Page no. 26.
2. Vagbhatt, Ashtangahridayam (2010), Vidyotini Hindi Commentary by Kaviraja Atrideva Gupta, Chaukhambha Prakashan, Varanasi, Uttara Sthana, Chapter 10, Shloka no. 20, Page no. 660.
3. Sushrut, Sushrut Samhita (2009), Ayurveda Tattva Sandipika Hindi commentary by Kaviraja Ambikadutta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Uttara Tantra, Chapter 6, Shloka no. 4, Page no. 33.
4. Ramanjit Sihota, Radhika Tandon (2017), Parson's Disease of eye, 22<sup>nd</sup> edition Elsevier, New Delhi, Chapter 16, Page no. 218.
5. Sushrut, Sushrut Samhita (2009), Ayurveda Tattva Sandipika Hindi commentary by Kaviraja Ambikadutta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Uttara Tantra, Chapter 4, Shloka no. 9, Page no. 28.
6. Vagbhatt, Ashtangahridayam (2010), Vidyotini Hindi Commentary by Kaviraja Atrideva Gupta, Chaukhambha Prakashan, Varanasi, Uttara Sthana, Chapter 10, Shloka no. 19, Page no. 660.
7. Sushrut, Sushrut Samhita (2009), Ayurveda Tattva Sandipika Hindi commentary by Kaviraja Ambikadutta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Uttara Tantra, Chapter 4, Shloka no. 8, Page no. 28.
8. Vagbhatt, Ashtangahridayam (2010), Vidyotini Hindi Commentary by Kaviraja Atrideva Gupta, Chaukhambha Prakashan, Varanasi, Uttara Sthana, Chapter 10, Shloka no. 16, Page no. 659.
9. Sushrut, Sushrut Samhita (2009), Ayurveda Tattva Sandipika Hindi commentary by Kaviraja Ambikadutta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Uttara Tantra Chapter 6, Shloka no. 29, Page no. 39.
10. Vagbhatt, Ashtangahridayam (2010), Vidyotini Hindi Commentary by Kaviraja Atrideva Gupta, Chaukhambha Prakashan, Varanasi, Uttara Sthana, Chapter 10, Shloka no. 14, Page no. 659.
11. Sushrut, Sushrut Samhita (2009), Ayurveda Tattva Sandipika Hindi commentary by Kaviraja Ambikadutta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Uttara Tantra, Chapter 6, Shloka no. 30, Page no. 40.
12. Vagbhatt, Ashtangahridayam (2010), Vidyotini Hindi Commentary by Kaviraja Atrideva Gupta, Chaukhambha Prakashan,



Varanasi, Uttara Sthana, Chapter 10, Shloka no.15, Page no. 659.

13. A K Khurana (2007), Comprehensive ophthalmology, 4<sup>th</sup> edition, New Age International (P) Ltd. Publishers, New Delhi, Page no. 128.

14. Ramanjt Sihota, Radhika Tandon (2017), Parson's Disease of eye, 22<sup>nd</sup> edition, Elsevier, New Delhi, Chapter 16, Page no. 219.

15. Brad Bowling (2016), Kanski's Clinical Ophthalmology, 8<sup>th</sup> edition, Elsevier, Chapter 8, Page no. 255.

16. Ramanjt Sihota, Radhika Tandon (2017), Parson's Disease of eye 22<sup>nd</sup> edition, Elsevier, New Delhi, Chapter 16, Page no. 219-221.

17. A K Khurana (2007), Comprehensive ophthalmology, 4<sup>th</sup> edition, New Age International (P) Ltd. Publishers, New Delhi, Page no. 130.

18. Brad Bowling (2016), Kanski's Clinical Ophthalmology, 8<sup>th</sup> edition, Elsevier, Chapter 8, Page no. 258.

19. Vagbhatt, Ashtanga Samgraha (2007), English translation by K. R. Shrikantha Murthy, Chaukhambha Orientalia, Varanasi, Sharir Sthana, Chapter 5, Shloka no. 50, Page no. 66.

20. Sushrut, Sushrut Samhita (2009), Ayurveda Tattva Sandipika Hindi commentary by Kaviraja Ambikadutta Shastri, Chaukhambha Sanskrit Sansthan,

Varanasi, Uttara Tantra, Chapter 1, Shloka no.11, Page no. 6.

21. Agnivesh, Charak Samhita (2005), Vidyotini Hindi commentary by Kashinath Shastri and Gorakhnath Chaturvedi, Chaukhamba Bharti Academy, Varanasi, Sutra Sthana, Chapter 18, Shloka no. 51, Page no. 385.

22. Myron Yanoff & Jay S. Duker (2009), Ophthalmology, 3<sup>rd</sup> edition, Elsevier, Chapter 4.11, Page no. 255.

23. A K Khurana (2007), Comprehensive ophthalmology, 4<sup>th</sup> edition, New Age International (P) Ltd. Publishers, New Delhi, Page No. 128.

24. A K Khurana (2007), Comprehensive ophthalmology, 4<sup>th</sup> edition, New Age International (P) Ltd., Publishers, New Delhi, Page No. 129.

25. Myron Yanoff & Jay S. Duker (2009), Ophthalmology, 3<sup>rd</sup> edition, Elsevier, Chapter 4.11, Page no. 256.

26. Monier Monier- Williams (2002), Sanskrit-English Dictionary, The Bhaktivedanta Book Trust, Page no. 180.

27. Ramanjt Sihota, Radhika Tandon (2017), Parson's Disease of eye, 22<sup>nd</sup> edition Elsevier, New Delhi, Chapter 16, Page no. 219.

28. Sushrut, Sushrut Samhita (2009), Ayurveda Tattva Sandipika Hindi commentary by Kaviraja Ambikadutta Shastri, Chaukhambha Sanskrit Sansthan,



Varanasi, Uttara Tantra, Chapter 15, Shloka no. 20-21, Page no. 70-71.

29. Sushrut, Sushrut Samhita (2009), Ayurveda Tattva Sandipika Hindi commentary by Kaviraja Ambikadutta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Uttara Tantra, Chapter 12, Shloka no. 3-6, Page no. 58-59.

30. Dr. Indradeva Tripathi and Dr. Daya Shankar Tripathi, Yogaratnakara (2013), Vaidyaprabha Hindi commentary, Chaukhambha Krishnadas Academy, Varanasi, 4<sup>th</sup> edition, Netra Roga Nidana Chikitsa Prakarna, Shloka no. 130, Page No. 771.

31. Sushrut, Sushrut Samhita (2009), Ayurveda Tattva Sandipika Hindi commentary by Kaviraja Ambikadutta Shastri, Chaukhambha Sanskrit Sansthan, Varanasi, Uttara Tantra, Chapter 1, Shloka no. 11, Page no. 6.

32. Agnivesh, Charak Samhita (2005), Vidyotini Hindi commentary by Kashinath Shastri and Gorakhnath Chaturvedi, Chaukhamba Bharti Academy, Varanasi, Sutra Sthana, Chapter 24, Shloka no. 18, Page no. 445.

33. Agnivesh, Charak Samhita (2005), Vidyotini Hindi commentary by Kashinath Shastri and Gorakhnath Chaturvedi, Chaukhamba Bharti Academy, Varanasi, Vimana Sthana, Chapter 7, Shloka no. 16, Page no. 728.