

## CONCEPT OF PHYSICAL EXAMINATION OF URINE IN AYURVEDA

Kumar Surjeet<sup>1</sup>, Kumar Anant<sup>2</sup>, Rani Khushboo<sup>3\*</sup> and Tewari Aditaya Nath<sup>4</sup>

<sup>1,2,3</sup>MD Scholar, PG Dept. of Rog Nidan Evum Vikriti Vigyan, Ch. Brahma Prakash  
Ayurveda Charak Sansthan, Khera Dabur Najafgarh, New Delhi.

<sup>4</sup>Associate Professor, PG Dept. of Rog Nidan Evum Vikriti Vigyan, Ch. Brahma Prakash  
Ayurveda, Charak Sansthan, Khera Dabur Najafgarh, New Delhi.

Article Received on  
20 Sept. 2017,

Revised on 10 October 2017,  
Accepted on 30 October 2017

DOI: 10.20959/wjpr201714-9992

**\*Corresponding Author****Rani Khushboo**

MD Scholar, PG Dept. of  
Rog Nidan Evum Vikriti  
Vigyan, Ch. Brahma  
Prakash Ayurveda Charak  
Sansthan, Khera Dabur  
Najafgarh, New Delhi.

**ABSTRACT**

Urine has been considered as one of the most important part among mala in *ayurveda*. Almost all the *acharya* of *ayurved* has emphasised the important of urine examination for diagnosis of disease. Equal importance has been paid in modern system of medicine also and physical emanation of urine has been described in detail there. These physical characteristics are helpful in the diagnosis of certain diseases per *ayurveda* also. Though ancient *acharya* of *ayurveda* had not described these parameters at one place, on review of literature, it is found that all of these parameters has been described in reference to various disease.

**KEYWORDS:** *Ayurveda*, Physical examination of urine, Quantity, odour, Colour, Appearance.

**INTRODUCTION**

*Ayurved* is based on *dosh –dhatu –mala* theory as “*Dosh dhatu mala moolam hee shariram*”<sup>[1,2,3,4,5]</sup> According to this theory human body consists of *Dosh*<sup>[6]</sup>, *Sapta Dhatu*<sup>[7]</sup>, *Trimala*.<sup>[8,9,10]</sup> *Trimala* means *Sweda*(sweat), *Mutra*(urine) and *Purisha*(faecus).<sup>[11,12,13]</sup> In normal state, they constitute the body where as in abnormal state causes disease. At several places various abnormality in urine has been described by the *acharyas*. On review of literature it is found that some of these fall in the category of physical property of urine as described in modern system of medicine i. e. abnormality in quantity, colour, odour and appearance.

## METHOD AND MATERIALS

A review of *ayurvedic* and modern medicine text has been done to find out the various abnormalities in urine as described by various *acharyas* in reference to various disease. Following observation related to physical examination of urine was found –

**Quantity:** As per *ayurved* text normal amount of urine output is four Anjali.<sup>[14,15]</sup> Increased urine output has been described in various diseases like *shitmeha*,<sup>[16,17,18]</sup> *amavata*<sup>[19]</sup> *Amaj jwar*.<sup>[20,21,22]</sup> *Udakmeha*<sup>[23,24,25]</sup> Decreased urine output has been described in various diseases like –complication of *visucika*,<sup>[26]</sup> *Mutrakshaya*<sup>[27,28,29,30]</sup>, *mutrasaada*.<sup>[31,32,33]</sup>

**Colour:** As per *ayurved* text normal colour of urine is pale. Due to *dosha* effect colour of urine is blue and dry due to *vatadosha*<sup>[34]</sup>, yellow and red and like oil due to *pitta dosha*<sup>[35]</sup>, unctous and like water of small pond due to *kaphadosha*<sup>[36]</sup> and unctuos, hot and red due to *raktadosha*.<sup>[37]</sup> As per *Ayurved Samhita*, urine is palish in *vataj*.<sup>[38]</sup>, frothy in *kaphaj*.<sup>[39]</sup> and is red in *pittaj* disorders<sup>[40]</sup>, in case of two *dosas* being the cause of the ailment the colour of urine also is mixed<sup>[41]</sup>, in case of *sannipata* the urine is black.<sup>[42]</sup> Acharyas has described discolouration of urine in different diseases as- *Mashivarn* found in *Kalmeha*,<sup>[43,44,45]</sup> *Neelvarn* found in *Neelmeha*<sup>[46,47,48]</sup> *Raktvarn* found in *Raktmeha* and *Majishthameha*.<sup>[49,50,51]</sup> Yellowish discolouration is seen in *Haridrameha*,<sup>[52,53,54]</sup> *Ushnvata*,<sup>[55,56,57,58]</sup> *kaamla*,<sup>[59,60,61]</sup> *pittaja paandu*,<sup>[62,63,64,65]</sup> *pittaja arsha*,<sup>[66,67,68,69]</sup> *pittaja jvara*,<sup>[70,71,72,73]</sup> *Vastikundal*,<sup>[74]</sup> Yellowish, whitish or redish discolouration is found in *mutrasaada*,<sup>[75,76,77]</sup>

**Odour:** Change in odour has been described in many diseases as odourless urine in *Udakmeha*,<sup>[78,79,80]</sup> *Ksharik* odour is found in *Ksharmeha*.<sup>[81,82,83]</sup> Foul odour is found in *Raktmeha*<sup>[84,85,86]</sup> *Manjishthameha*,<sup>[87,88,89]</sup> *vidavighat*.<sup>[90,91,92]</sup>

**Appearance:** Change in appearance has been described in many diseases as - rice water seen in *ajirna roga*<sup>[93]</sup> smoky appearance in case of *jwara* of recent infliction.<sup>[94]</sup> Clear and transparent found in *udakmeha*<sup>[95,96,97]</sup>, like sugarcane juice in *ikshubalikarasameha*,<sup>[98,99,100]</sup> Whitish in *shukrameha*.<sup>[101,102,103]</sup> *kshar* like in *ksharmeha*,<sup>[104,105,106]</sup> *vasa* like in *vasameha*<sup>[107,108,109]</sup> *Majja* like in *majjameha*.<sup>[110,111,112]</sup> *Bhasmodakprakash* seen in *Mutrashukra*.<sup>[113,114,115]</sup>

## DISCUSSION

Examination of abnormality in physical property is one of the most important part for diagnosis of disease. Like modern system of medicine, *ayurveda* has also paid equal importance on this part. Vast description regarding abnormality in physical property is available in *ayurvedic* literature in reference to various disease.

## CONCLUSION

Though physical properties of urine sample has not been described at one place/ under single heading, on the review of literature is clear that ancient *acharya* of *ayurveda* has described about these in detail in reference to various physiological and pathological conditions and has given equal importance as has been given by modern medicine of system.

## REFERENCE

1. Shastri Shri Ambikadutta, Susruta Samihita, Chaukhamba Sanskrit Sansthan Varanasi, Edition reprint, 2012; 1: 73.
2. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 114.
3. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 4.
4. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 9.
5. Pandit Parsuram Shastri, Vidyasagar, Sharangdhar Samhita, Purva khand, Pandurang Nirnaya-Sagar Press Bombay, Edition reprint, 1931; 50.
6. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 9.
7. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 8.
8. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 114.
9. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 2: 456.
10. Shastri Shri Ambikadutta, Susruta Samihita, Chaukhamba Sanskrit Sansthan Varanasi, Edition reprint, 2012; 1: 291.

11. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vdhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 117.
12. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 2: 454.
13. Pandit Parsuram Shastri, Vidyasagar, Sharangdhar Samhita, Purva khand, Pandurang Nirnaya-Sagar Press Bombay, Edition reprint, 1931; 68.
14. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 15.
15. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vdhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 260.
16. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 635.
17. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 346.
18. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 11.
19. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 1: 575.
20. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 129.
21. K. R. Srikantha Murthy, Susrut Samhita, chaukhambha Orientalia Varanasi, Edition Reprint, 2012; 2: 193.
22. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014 1: 166.
23. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 635.
24. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 346.
25. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 11.
26. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 1: 298.
27. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 2: 1057.

28. K. R. Srikantha Murthy, *Susrut Samhita*, Chaukhambha Orientalia Varanasi, Edition Reprint, 2012; 2: 381.
29. Kaviraja Atrideva gupta, *Astanga Hrdayam*, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 343.
30. B.N Tripathi, *Madhav Nidan*, Chaukhambha Surbharti Prakashan varanasi, Edition Reprint, 2014; 1: 631.
31. K. R. Srikantha Murthy, *Susrut Samhita*, Chaukhambha Orientalia Varanasi, Edition Reprint, 2012; 382.
32. Kaviraja Atrideva gupta, *Astanga Hrdayam*, Hindi Vdhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 2: 344.
33. B.N Tripathi, *Madhav Nidan*, Chaukhambha Surbharti Prakashan varanasi, Edition Reprint, 2014; 1: 633.
34. Asha Kumari P.V. Tewari. *Yogratnakara*, Chaukhambha Viswabharati Varanasi, Edition Reprint, 2010; 1: 15.
35. Asha Kumari P.V. Tewari. *Yogratnakara*, Chaukhambha Viswabharati Varanasi, Edition Reprint, 2010; 1: 15.
36. Asha Kumari P.V. Tewari. *Yogratnakara*, Chaukhambha Viswabharati Varanasi, Edition Reprint, 2010; 1: 15.
37. Asha Kumari P.V. Tewari. *Yogratnakara*, Chaukhambha Viswabharati Varanasi, Edition Reprint, 2010; 1: 15.
38. Asha Kumari P.V. Tewari. *Yogratnakara*, Chaukhambha Viswabharati Varanasi, Edition Reprint, 2010; 1: 14.
39. Asha Kumari P.V. Tewari. *Yogratnakara*, Chaukhambha Viswabharati Varanasi, 1 Edition Reprint, 2010; 15.
40. Asha Kumari P.V. Tewari. *Yogratnakara*, Chaukhambha Viswabharati Varanasi, 1 Edition Reprint, 2010; 15.
41. Asha Kumari P.V. Tewari. *Yogratnakara*, Chaukhambha Viswabharati Varanasi, 1 Edition Reprint, 2010; 15.
42. Asha Kumari P.V. Tewari. *Yogratnakara*, Chaukhambha Viswabharati Varanasi, 1 Edition Reprint, 2010; 15.
43. Shastri Sri Satya Narayana, *Charak Samhita*, 1 Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 636.
44. Kaviraja Atrideva gupta, *Astanga Hrdayam*, Hindi Vdhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 346.

45. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, 2, Edition Reprint, 2014; 16.
46. Shastri Sri Satya Narayana, Charak Samhita, 1 Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 636.
47. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 346.
48. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 16.
49. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 637.
50. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 346.
51. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 16.
52. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 637.
53. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 347.
54. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 16.
55. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 2: 1060.
56. K. R. Srikantha Murthy, Susrut Samhita, Chaukhambha Orientalia Varanasi, Edition Reprint, 2012; 2: 382.
57. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 343.
58. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Reprint, 2014; 1: 633.
59. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 2: 493.
60. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 363.
61. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 1: 323.

62. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 2: 488.
63. K. R. Srikantha Murthy, Susrut Samhita, chaukhambha Orientalia Varanasi, Edition Reprint, 2012; 2: 286.
64. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 363.
65. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 1: 313.
66. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 2: 421.
67. Shastri Shri Ambikadutta, Susruts Samihita, Chaukhamba Sanskrit Sansthan Varanasi, Edition reprint, 2012; 1: 308.
68. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 334.
69. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, vol.1 ,Edition Reprint, 2014 P.No.251
70. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 612.
71. K. R. Srikantha Murthy, Susrut Samhita, chaukhambha Orientalia Varanasi, Edition Reprint, 2012; 2: 179.
72. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 299.
73. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 1: 104.
74. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 2: 1062.
75. K. R. Srikantha Murthy, Susrut Samhita, Chaukhambha Orientalia Varanasi, Edition Reprint, 2012; 2: 2: 382.
76. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 344.
77. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 1: 633.
78. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1 635.



79. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 345.
80. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 11.
81. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 636.
82. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 346.
83. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 16.
84. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 635.
85. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 345.
86. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 11.
87. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 635.
88. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 345.
89. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 11.
90. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhotani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 2: 1061.
91. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 343.
92. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 1: 634.
93. Asha Kumari P.V. Tewari. Yogratnakara, Chaukhambha Viswabharati Varanasi, Edition Reprint, 2010; 1: 15.
94. Asha Kumari P.V. Tewari. Yogratnakara, Chaukhambha Viswabharati Varanasi, Edition Reprint, 2010; 1: 15.
95. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 635.



96. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 345.
97. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 11.
98. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 635.
99. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 345.
100. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 11.
101. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 635.
102. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 345.
103. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 11.
104. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 635.
105. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 345.
106. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 11.
107. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 635.
108. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 345.
109. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 11.
110. Shastri Sri Satya Narayana, Charak Samhita, Hindi Vidhitani Tika, Chaukhmba Bharti Academy, Edition Reprint, 2011; 1: 635.
111. Kaviraja Atrideva gupta, Astanga Hrdayam, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 345.
112. B.N Tripathi, Madhav Nidan, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 2: 11.

113. K. R. Srikantha Murthy, *Susrut Samhita*, chaukhambha Orientalia Varanasi, Edition Reprint 2012; 2: 381.
114. Kaviraja Atrideva gupta, *Astanga Hrdayam*, Hindi Vidhotani Tika, Chaukhambha Prakashan, Edition Reprint, 2012; 343.
115. B.N Tripathi, *Madhav Nidan*, Chaukhamba Surbharti Prakashan varanasi, Edition Reprint, 2014; 1: 632.