ROLE OF UDAKAVAH SROTAS IN RESPIRATORY PHYSIOLOGY
A CONCEPTUAL REVIEW

Dr Deepa Patil¹, Dr Jotiram Maske Patil²

¹PG Scholar Dept of Kriya Shareera, SJGAMC, Koppal, Karanataka, ²Professor & HOD Dept of Kriya Shareera, SJGAMC, Koppal, Karanataka.

Abstract
In Ayurveda shastra Srotas are explained as structural and functional entities of the living body. Brihatrayies explained various number of srotus based on the clinical utility. Acharyas explained systemic anatomy & physiology under srotus. Udakavaha srotas is one among the antharmukha srotas explained by Brihatrayies. Along with Pranavaha srotas udakavaha srotas also plays a major role in Respiratory physiology. Udakavaha srot mula is talu and kloma narrated by Brahtrayies. Here Acharyas explained Kloma is situated right lateral side of the Hridaya. Kloma is one of the kapha sthana explained by Acharya vagbhata. This kapha is helps for Ambukarma. By these references here it considered as kloma is Right lung. Along with Pranavaha dushti lakshanas many symptoms of respiratory pathology showing symptoms of Udakavaha dushti lakshanas also like pipasa, jivha shosha, talu shosha etc. So by this concept it will help for clinical understanding of the srotas. So the attempt is made to understanding the role of udakavaha srotus in Respiratory Physiology.

Keywords: Udakavaha Srotas, Respiratory System.

Introduction
Srotas is not only an anatomical entity it is primarily a physiological entity based on definition of srotas (Sravanat Srotamsi)¹. Srotas are akasha pradhana dravyas which are responsible for vahana of bhava padarthas for the dharana and poshana of the sharira, indriya and satva so has a key role in the maintance of...
ayu and swasthya in the purusha. Because acharyas explained srotomayam edam shariram. srotas plays most significant role ayuvrudhi and ayukshaya. Main function of sotases are synthesis of Dhatu, transportation of nutrients of Dhatu and excretion of waste products. Srotases are convey sensory and motor impulses of particular chanel. Acharya Charaka classified 13 types\(^2\) of Antarmukha srotas along with there mula, dusti karana and its dusti laksanas in srotvimaniya adhyaya. Acharya Sushruta explained 11 pairs\(^3\) of antarmukha srotas in Dhamani vyakarana sharira.

- **Pranavaha Srotas, Udakavaha Srotas, Annavaha Srotas**

  Receives exogenous materials & converts to homologous substances.

- **Dhatuvaha Srotases**

  Dhatuposhana & maintenance of swasthya.

- **Mutarvaha Srotas, Pureeshavaha Srotas & Swedavaha Srotas**

  Are responsible for the removal of waste material.

Udakavaha srotas is one of the antarmukha srotas or sukshma srotas that carrying water and controlling water metabolism. In general physiology it helps for receiving ambu pradhana dravyas and converts it in to homologus ambu dravyas in shareera. The mula stana of udakavaha srotas mentioned by acharyas are Talu and Kloma\(^4\). Acharya chakrapani comments on mula sthana is Prabhava sthana\(^5\) i.e utapatti stana. Based on these mula sthana of udakavaha srotas is also playing major role in respiratory physiology explained here. Along with pranava srotas, udakavaha srotas also participate in physiology of Respiration.

**Methodology**

In general physiology Respiratory system comes under Pranavaha srotas. But along with this udakavaha srotas is also have significant function on respiration. The udakavaha srotas mula sthana is Talu and Kloma. Acharya charaka explained 1 udakavaha srotas but acharya shushrut narrates pair i.e 2\(^6\).

Here Acharyas explained Kloma is situated right lateral side of the Hridaya\(^7\). Kloma is one of the kapha sthana\(^8\) explained by Acharya vagbhata. This kapha is helps for Ambukarma\(^9\). By these references here it considered as kloma is Right lung. Here Acharya sushruta distinguishes left lung is Puppusa and right lung is Kloma. In Garbha vyakarana sharira Acharya explains from hridaya adho vama(left) is sthana of pleeha and puppusa, and from dakshina (right) is a sthana of yakra and Kloma.

During the explanation of Kapha sthana in Astanga hridaya Acharya hemadri comments on kloma and it is udakvaha sroto mula and situated at hrita dakshinatha(right) Mamsa granthi\(^10\).

Similarly in a commentary of Madhu kosha Madhava nidana by Shrikantradatta expressed the area of Kloma is considers superior aspect of vrukka\(^11\). The relative anatomy saw that upper pole of kidney lies at the degree of upper border of T12 and lower border of each lung crosses 6\(^{th}\) rib in mid clavicular line, 8\(^{th}\) rib in mid axillary line and posteriorly 2cm lateral to T10. Over the level of T11 there is a presence of diaphragm, pleural depression and lungs. So it is tend to be Kloma is the organ of thoracic cavity.
Acharya Todarmalla explained in the commentary of Trishna Nidana of Astanga Hridaya, has mentioned that Kloma means Phuppusa. Kloma is one of the Matruja Avayava expressed by Acharya Sushruta.

Kloma-Dosha: Pranavayu, Udanavayu, Avalambaka Kapha

Dhatu: Rasa, Rakta, Mamsa

Mala: Kapha (rasa mala)

Udaka vaha Dusti lakshnas explained in Srotovimaniya Adhyaya of Charaka samhita are jivaha shosha, tulu shosha, Kanta shosha are observed in many of respiratory pathologies like COPD etc here we can observe involvement of both pranavaha as well as udakavaha srotas.

Bhaya one of udakavaha srotodushti karana explained by acharya charaka many respiratory patients we can observe they are anxious.

Tishna vega dharana one of the adharaneeya vega leads to udakavaha srotodusti. Acharya chakrapani comments kloma is peepasa sthanam. The diseases which explained in trisha vega dhrana janita are shosha, hridroga, sammoha, brahma etc also we observe in many respiratory diseases. The one of the lung function explained in Modern Physiology is water balance.

In viddha lakshna of udakavaha srotas acharya explains Sadhyao marana so it is one of the vital organ of the body.

By these references we can consider Udakavaha srotas is also having prime role in Respiratory Physiology.

Discussion

There is no direct reference of Swasana prakriya in Brihatrayis. Still there is a many different opinions of Kloma. If pathology in Rt.lung then there is more observation of more pipasa than other lakshanas. If vata vitiates udakavaha srotas because of ruksha guna shoshana of Ambutatva takes place. If pitta vitiates because of Ushna and teekshna guna tulu shosha, kanta shosha etc lakshnas may manifests. If Kapha vitiates due to increase dravaguna there will be heavyness of chest, shwasakruchata may manifests. Based on clinical observations srotas are interconnected with each other by their physiological as well as pathological aspects. So the Respiratory System involves both pranavaha srotas and udakavaha srotas. There is a need of further research for validate of the concept.

Conclusion

By the all references mentioned is considered that Kloma is Right lung and has a significant role in mechanism of Respiration. By this concept we can assess involvement of udakavaha srotas based on dushti karanas and lakshnas in Respiratory pathology. For the proper Respiratory physiology vaidya should concentrate both pranavaha as well as udakavaha srotas. One should take care of mula of udakavaha srotas clinically for maintance of proper respiratory health of an individual. Udakavaha srotas plays most significant role ayuvrudhi and ayukshaya.

Udakavaha srotovignana is very essential for swasthya raksha, roga niraya and roga nivarana of Respiratory system.

References

1. Agnivesha, Charaka Samhita, elaborated by Charaka & Drudabala with Ayurveda Dipika Commentary by Chakrapaanidatta, Edited by Yadavji Trikamji Acharya,
2. Agnivesha, Charaka Samhita, elaborated by Charaka & Drudabala with Ayurveda Dipika Commentary by Chakrapaanidatta, Edited by Yadavji Trikamji Acharya, Published by Chowkambha Sanskrit Samsthan, Varanasi, Reprint 2009, Sutrasthana 30/12

3. Sushruta, Susruta Samhita with the nibandhasangraha commentary of Sri Dalhan Acharya and the Nyayacandrika Panjika of Sri Gayadascharya on Nidanasthana, edited from the beginning to the 9th adhyaya of cikitsasthana by Vaidya Yadavji Trikamji Acharya and the rest by Narayan Ram Acharya Kavyatirtha; Published by Chaukambha Orientalia, Varanasi;8th edition:2005, Shareera sthana 9/12

4. Agnivesha, Charaka Samhita, elaborated by Charaka & Drudabala with Ayurveda Dipika Commentary by Chakrapaanidatta, Edited by Yadavji Trikamji Acharya, Published by Chowkambha Sanskrit Samsthan, Varanasi, Reprint 2009, vimanasthana 5/7

5. Agnivesha, Charaka Samhita, elaborated by Charaka & Drudabala with Ayurveda Dipika Commentary by Chakrapaanidatta, Edited by Yadavji Trikamji Acharya, Published by Chowkambha Sanskrit Samsthan, Varanasi, Reprint 2009, vimanasthana 5/7 chakrapani teeka

6. Sushruta, Susruta Samhita with the nibandhasangraha commentary of Sri Dalhan Acharya and the Nyayacandrika Panjika of Sri Gayadascharya on Nidanasthana, edited from the beginning to the 9th adhyaya of cikitsasthana by Vaidya Yadavji Trikamji Acharya and the rest by Narayan Ram Acharya Kavyatirtha; Published by Chaukambha Orientalia, Varanasi;8th edition:2005, Shareera sthana 9/12

7. Sushruta, Susruta Samhita with the nibandhasangraha commentary of Sri Dalhan Acharya and the Nyayacandrika Panjika of Sri Gayadascharya on Nidanasthana, edited from the beginning to the 9th adhyaya of cikitsasthana by Vaidya Yadavji Trikamji Acharya and the rest by Narayan Ram Acharya Kavyatirtha; Published by Chaukambha Orientalia, Varanasi;8th edition:2005, Shareera sthana 4/31

8. Vagbhata, Astanga Hridaya with sarvangasudari commentary of Arunadatta & Ayurveda Rasayana commentary of Hemadri, Edited by Harisadashiv shastri Paradkar, Published by Chaukambha Surabharati Prakashan, Varansai, Reprint 2007. Sutrasthana 12/3


11. Shudarshana Shastri, Madhukosha Madhava Nidana Vijayarakhita Kanthdatt, Chaukambah prakashana,Varanasi,Trishna nidana -I

13. Sushruta, Susruta Samhita with the nibandhasangraha commentary of Sri Dalhan Acharya and the Nyayacandrika Panjika of Sri Gayadacharya on Nidanasthana, edited from the beginning to the 9th adhyaya of cikitsasthana by Vaidya Yadavji Trikamji Acharya and the rest by Narayan Ram Acharya Kavyatirtha; Published by Chaukambha Orientalia, Varanasi;8th edition:2005, Shareera sthana 4/25


15. Vagbhata, Astanga Hridaya with sarvangasudari commentary of Arunadatta & Ayurveda Rasayana commentary of Hemadri, Edited by Harisadashiv shastri Paradkar, Published by Chaukambha Surabharati Prakashan, Varanasi, Reprint 2007. Sutrasthana 12/5


17. Sushruta, Susruta Samhita with the nibandhasangraha commentary of Sri Dalhan Acharya and the Nyayacandrika Panjika of Sri Gayadacharya on Nidanasthana, edited from the beginning to the 9th adhyaya of cikitsasthana by Vaidya Yadavji Trikamji Acharya and the rest by Narayan Ram Acharya Kavyatirtha; Published by Chaukambha Orientalia, Varanasi;8th edition:2005, Shareera sthana 9/12

18. Agnivesha, Charaka Samhita, elaborated by Charaka & Drudabala with Ayurveda Dipika Commentary by Chakrapaanidatta, Edited by Yadavji Trikamji Acharya, Published by Chowkambha Sanskrit Samsthan, Varanasi, Reprint 2009, vimanasthana 5/8

19. Agnivesha, Charaka Samhita, elaborated by Charaka & Drudabala with Ayurveda Dipika Commentary by Chakrapaanidatta, Edited by Yadavji Trikamji Acharya, Published by Chowkambha Sanskrit Samsthan, Varanasi, Reprint 2009, vimanasthana 5/11

20. Vagbhata, Astanga Hridaya with sarvangasudari commentary of Arunadatta & Ayurveda Rasayana commentary of Hemadri, Edited by Harisadashiv shastri Paradkar, Published by Chaukambha Surabharati Prakashan, Varanasi, Reprint 2007. Sutrasthana 4/1

21. Agnivesha, Charaka Samhita, elaborated by Charaka & Drudabala with Ayurveda Dipika Commentary by Chakrapaanidatta, Edited by Yadavji Trikamji Acharya, Published by Chowkambha Sanskrit Samsthan, Varanasi, Reprint 2009, sutrasthana 9/12

22. Sushruta, Susruta Samhita with the nibandhasangraha commentary of Sri Dalhan Acharya and the Nyayacandrika Panjika of Sri Gayadacharya on Nidanasthana, edited from the beginning to the 9th adhyaya of cikitsasthana by Vaidya Yadavji Trikamji Acharya and the rest by Narayan Ram Acharya Kavyatirtha; Published by Chaukambha Orientalia, Varanasi;8th edition:2005, Shareera sthana 9/12