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# URTICARIA WITH SPECIAL REFERENCE TO SHEETAPITTA WITH AYURVEDIC MANAGEMENT

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#### **ABSTRACT**

In today's busy life, one can't follow the rules of 'Dinacharya' and Ritucharya' described in 'Ayurveda'. Due to heavy industrialization and heavy traffic, one constantly comes into contact with various pollutants. The spicy and fast food eaten now a days, which has very less nutritional value and also consists Viruddhahara'. This ultimately results into 'Dhatudaurbalya' which causes sensitivity towards allergens causing release of antibodies and produces various types of allergic reactions, one of them being 'Urticaria', which is very common. Urticaria is an allergic reaction of the skin to a variety of exogenous and endogenous antigens. It is a common disease nowadays, characterized and pruritis are due to the releases of histamine and other mediators from mast cells. Ayurvedic classics mentioned this condition as sheetpitta, which is vatpradhan Tridosha in nature. Symptoms mentioned by acharyas are shotha, toda, kandu and daha. Even after the availability of newer medicine, there is a lack of promising results against this ailment. Moreover, the use of drugs like antihistamines and corticosteroids lead to various side effects. Modern medicine produces only symptomatic relief but Ayurveda treats a holistic way. Ayurveda treats to eliminate the root cause of the disease so that the body remains healthy and no symptoms exist. In Ayurveda, the sequential administration of Shodhana therapy and certain Shaman Yoga are quite beneficial. Virechana (therapeutic purgation) is best treatment for Pittaja Vyadhi and also it is an important treatment for Vataja, Kaphaja and Raktaja Vyadhi (as these all are vitiated in Sheetapitta), thus Virechana eradicates the aggravated Doshas from the body thereby producing a marked relief in patients of Urticaria.

KEYWORDS: Dhatudaurbalya, Urticaria, Sheetapitta, Shodhana, Shaman, Virechana.

#### INTRODUCTION

Urticaria is one of the dermatological diseases characterized by sudden eruptions of itchy wheals which may appear on any part of the skin and mucous membranes. Individual lesions as a rule do not last longer than a few minutes to a few hours and disappear without leaving any trace. [1] An episode of Urticaria (hives) can start as itching, followed by swollen red wheals. The Itching may be mild or severe. Scratching, alcohol beverages, exercise and emotional stress may worsen the itching. Urticaria affects about 15- 20 % of total population. [2] This condition can interfere in routine activities of the patient. It is intermittent and frustrating for both the patients and physicians. Urticaria is generally manifested due to foods such as eggs, nuts, shellfish etc., and resolves with only symptomatic treatment. Commonly Antihistamines and steroids are used in the treatment of Urticaria, long term use of which may cause adverse effects in the human body.[3]

Sheetapitta is a skin disease but is not mentioned under Kushtha due to its typical and distinct pathogenesis (samprapti). As per modern science sheetapitta can be considered as an allergic skin disorder. Sheetapitta arises because of exposure to asatmya ahara-vihara. Asatmya ahara-vihara hampers immunity of the body which allows allergens to come in contact with the body causing allergic conditions like Sheetapitta. Sheetapitta is a disease caused when a patient is exposed to cold breeze which results in vitiation of Kapha and Vata. These two combines with Pitta and circulate all over the body producing the signs and symptoms over the skin. The symptoms include Varati Damshavat Shotha and Kandu caused by Kapha vitiation, Shoola caused by Vata and Daha caused by Pitta vitiation.

Sometimes it also causes symptoms like Chardi, Hrillas, Aruchi, Deha sada, Anga gaurava, Jwara, Vidaha and Pipasa.<sup>[4-7]</sup>

Ayurveda regards allergy as a disorder caused by impaired digestion. Unhealthy diet and life style cause vitiation of digestive fire leading to the production of toxic substance called as Ama which is the root cause of all disease. This dysfunction is the cause for hyper sensitivity to a substance such as dust, pollen etc. and

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triggers the allergic attacks. The people who do not follow the rules of Swasthavritta and take improper diet, erroneous lifestyle, stress and exposed with various pollutants become victim for several allergic diseases like Sheetapitta (Urticaria).

Sheetapitta Chikitsa<sup>[8-13]</sup>- Treatment can be divided into three phases – It is stated that in 'Alpa dosha avastha' Langhan is advised, in Madhya dosha, Langhan along with Pachan and in Prabhoot Dosha treatment is Shodhan. Shaman Chikitsa also has a good impact on the Sheetapitta. Vata Pradhana Tridoshahara drugs mentioned in Rasa Rakta dushti are beneficial in Samprapti vighatana there by reverting the disease samprapti.

#### Samprapti Ghataka

Dosha: Tridosha Agni: Manda

Doshagati: Tiryak, Shakha Vyadhi marga: Bahya Dushya

: Rasa, Rakta

Strotas: Rasavaha, Raktavaha Strotodushti Prakara:

Vimarga gamanaUdbhava Sthan : Aamashay Vyakti Sthan : Tvak Svabhava : Ashukari

#### MATERIALS AND METHODS

In this review study, we have collected information from the available Ayurvedic Samhitas, modernmedical books, reliable journals, publications and citations excluding patent. Subjects available on Internet are also considered for reference.

#### **HETU/ NIDAN** - Etiology of Sheetapitta (Causes)

The knowledge of Nidan plays a great role in the diagnosis and management of the disease because Nidan Parivarjan is the major part of the treatment. [14] Causative factors mentioned for Sheetapitta can be classified as Aharaja Hetu (Dietary factors), Viharaja Hetu (lifestyle related factors) and Agantuja (others/external factors).

#### 1. Aharaja Nidan

- Lavana and Katu Rasa Atisevana<sup>[15-16]</sup>
  (Excessive intake of salt and spicy food)
- Shukta<sup>[17]</sup> (acidic preparation)
- Sarshapa Atisevana (Excessive use of mustard).

#### 2. Vihara Nidan

- Sheeta maruta (cold air)
- Varsha and Shishira Ritu<sup>[18]</sup> (rainy and cold weather)
- Sheeta Paneeya Samsparsha (cold water contact)
- Diwa swapna<sup>[19]</sup> (day sleep)
- Chhardi Vegavarodha (suppression of the natural urge of nausea and vomiting)
- Asamyak Vaman<sup>[20]</sup> (inadequate medicated emesis).

#### 3. Agantuja Nidan (other causes)

- Keeta Damsha<sup>[21]</sup> (insect bite)
- Krimi<sup>[22]</sup> (Parasites)

- In modern medicine, causes responsible for Urticaria are food allergens (such as cow's milk, soy, eggs, wheat, peanuts, fish, nuts, shell fish)<sup>[23]</sup>
- Drug reaction (like salicylates, indomethacin, aspirin, NSAIDs)
- Antigen sensitivity (pollen, food, helminths)
- Blood transfusion reactions and vasculitis [24]

## Poorvarupa – (Prodromal Symptoms)

Poorvarupa<sup>[25]</sup> are the sign and symptoms seen just before the disease developed.

- Pipasa (Thirst)
- Aruchi (anorexia)
- Hrillasa (nausea)
- Deha saada (bodyache)
- Anga gaurava (heaviness in the body)
- Rakta lochana (redness in eye)

#### Rupa – symptoms

Symptoms<sup>[26]</sup> are manifest in the vyaktavastha.

- Varateedashtra samsthanah Shotha (Wasp bite)
- Kandu (Itching)
- Toda (Pricking sensation)
- Chhardi (Vomiting)
- Jwara (Fever)
- Vidaha (Burning sensation)

**Samprapti** – **Pathogenesis** = The knowledge of Samprapti not only helps in understanding the specific features of a disease but also useful in decide the line of treatment

**Urticaria** - In respect to modern medicine, this disease results from IgE – dependent release of mediators from sensitized basophils and mast cells upon contact with an offending antigen. When the person is coming in contact or exposure to the allergens, the antigen specific IgE antibodies bind to the high affinity receptor which are located on the surfaces of the mast cells and basophils. The mast cells are activated, then they release histamine and other vasoactive substances from mast cell and basophilsin the superficial dermis which increase the capillary permeability and develop oedema.

**Sheetapitta** - Due to Sheeata marutadi nidana (cold air and weather) vitiated Vayu and Kapha are mixed with Pitta<sup>[28]</sup> and go into the Amashaya (stomach), afflict Agni and Rasa and Rakta dhatu. This vitiated dosha and dhatu blocks the channels associated with Rasa and Rakta, adversely affecting the digestive processes and spreads internally and externally resulting into Sheetapitta.

#### **Modern Review of Urticaria**

Urticaria (also known as hives) is produced due to localized oedema of dermis secondary to a temporary increase in capillary permeability. [29]

Pathogenesis<sup>[29]</sup>: Urticaria may be brought by either

immunological and non-immunological mechanism. Urticaria is triggered by wide variety of antigens or by physical stimuli, including cold, pressure and sunlight. They produce local degranulation of mast cells by various mechanism such as

- 1. Type 1 hypersensitivity
- 2. Spontaneous mast cell degranulation
- 3. Chemical mast cell degranulation
- 4. Autoimmunity

## Causes of urticaria can be classified as under IgE antibodies mediated

**Food** - Nuts, eggs, fresh fruits (especially citrus), chocolates, Fish and shellfish, tomatoes, milk and cheese, spices, yeasts, food additives and preservatives such as tartrazine.

**Drugs** - Pain killers e.g., Aspirin, codeine, antibiotics, penicillin, sulphonamides. salicylates, Indomethacin and

other non-steroidal anti-inflammatory drugs, opiates, radio contrast media, menthol.

**Insect stings, Contactant**: Latex, perfumes, wool animals.

**Non-IgE** mediated Endogenous mediators, Components of complement (C3a,C5a), Neuropeptides (substance P), Eosinophilic major basic protein.

**Autoantibodies (IgG)** - Direct against IgE or the high affinity IgE receptor

**Physical Stimuli** - Simple friction or scratching (dermatographism), sunlight, pressure, heat, cold temperature, water and vibration.

**Inhalants -** Latex, dust, animal dander, pollen.

**Infections** - Viral upper respiratory infections, bacterial (sinusitis, dental abscess, otitis), viral hepatitis, vaginitis, fungal and helminths.

**Systemic diseases** - Collagen vascular diseases, leukemia, lymphoma, endocrinopathies andmenstruation.

#### Pathogenic pathways of Urticaria

Contact of Allergen to Antigen Presenting cell

Cell migrates to lymph node

Join with the THO cells



Release TH2

IL-13





IgE binds to high affinity receptors located on the surface of Mast cells and basophils



Release of Chemical mediators and release of mediator in the skin



Release in superficial layer of skin Urticaria Release in deeper layer of dermis and subcutaneous tissue
Angioedema

#### Classification

- 1. Acute
- 2. Chronic
- 1) Acute Urticaria: Typically, lesions lasting less than 6 weeks are referred to as acute Urticaria. This form is more common in young people and is most likely due to exposure to food allergens, food additives, certain medications.
- 2) Chronic Urticaria: The word 'chronic' simply means that it lasts a long time. If Urticaria lasts six weeks or more, it is called 'chronic urticaria'.

#### Physical urticaria

The physical urticaria is different from other urticarias in that the characteristic wheals can be reproduced by a physical stimulus such as cold, heat, pressure, vibration, sunlight, water, exercise, and increases in core body temperature.

Thermal Urticaria: Cold Urticaria, Heat Urticaria

**Light** - Solar Urticaria, Porphyri

Water- Aquagenic urticaria (water, sweat)

### **Contact Urticaria**

- a) Dermographism: In Dermographism, which accounts for an estimated 8.5% of all cases of physical Urticaria, wheals and flares occur in response to simple rubbing of the skin. Urticaria accompanies the wheal and flare, and seems disproportionate to the degree of stimulation and the appearance of the wheal and flare.
- b) Pressure urticaria: This type of urticaria can occur right way, precisely after a pressure stimulus or as a deferred response to sustained pressure being enforced to skin. The source of pressure on the skin can happen from tight fitted clothes, belts, clothing with tough straps.
- c) Vibratory urticaria: It is rare familial condition

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- consisting of erythema and edema following the stretching of skin.
- d) Localized heat urticaria: It occurs when heat is applied locally, results in edema and erythema at the site of heat contact.
- e) Cholinergic urticaria- 34% of all the physical urticaria is cholinergic, which occur with exercise, anxiety, sweating, and passive warming. The precipitating factor in this reaction is elevated core bodytemperature. [30]

**Management**<sup>[31]</sup> - Urticaria due to physical causes or drugs excluded by history.

- 1. Complete food elimination followed by gradual introduction of one dietary element at the time helps in detection of food induced urticaria.
- Mask use/ nasal filter use/change of place may work for inhalants.
- Soothing lotion for topical application given during attack of urticaria
- 4. H1 Antihistamine: cetirizine, levocetirizine, Desloratadine, fexofenadine, Chlorpheniramine maleate, Hydroxyzine hydrochloride, Diphenhydramine etc.

#### **Diagnosis**

Prick Test – To identify the drug induced Urticaria. Stool Examination – To rule out parasitic infection.

Provocation Test – Drug induced or urticaria due to inhalants Local application of heat – To confirm heat urticaria.

Pressure Challenge on shoulder - To rule out the pressure urticaria

Ayurvedic treatment for Urticaria Principles of treatment of Sheetapitta - Chakradutta has systematically described the Shamana Chikitsa of these diseases giving considerable importance to Doshagati. [32] He has advised that the individuals suffering from Sheetapitta can be given either Sheeta or Ushna Ahara with due consideration to Doshagati. Bhavaprakasha has described Shodhana, Shamana and Bahi Parimarjana Chikitsa in Sheetapitta. [33] Yogaratnakara has described Krimighna and Dadrughna drugs to treat Sheetapitta. [34] Bhaishajya Ratnavali has mentioned that patient suffering from sheetapitta should, in brief, adopt line of treatment prescribed for Visarpokta Amritadi Kwatha, Agnimantha Moola Ghrita Yashtyadi Kwatha and Amritadi Kwath. [35-36]

#### Principles of treatment of Sheetapitta

Snehan, Swedan, Vaman, Virechan, Lepam, Udayartanam and Shodhana Chikitsa.

## Shodhan chikitsa<sup>[34]</sup>

- 1. Vamana: Emesis should be given with decoction of Patola and Arishtaka. 2.Virechana: Purgation should be given with decoction of Triphala and pippali.
- 3. Raktamokshana (Bloodletting therapy)- It is a method to eliminate the toxins from the blood. It can be

performed after Mahatiktaka Ghrutapana.

#### Shaman chikitsa

- Charak Udarda Prashamana<sup>[37]</sup>, Mahakashaya, Katu Taila, Mustadi Churna.
- 2. Sushrut- Eladi Gana<sup>[38]</sup>
- 3. Chakradutta<sup>[39]</sup>:

Shodhan Chikitsa: Vaman and Virechana Shaman Chikitsa: Amrutadi Gana Kwath paan,

Sthanik Chikitsa: Sidharthak Udavartanam, Durvadi Lepa, Agnimanth , Nimbapatradi Lepa

- 4. Bhavaprakash<sup>[40]</sup>: has described Shodhana, Shamana and Bahi Parimarjana Chikitsa. Navakarshika Guggulu,Trikatu +Sharkara, Yavani +Vyosha +Yavakshara, Aardraka Rasa +Purana Guda ,Yavani + Guda, Guda + Amalaki, Nimba Patra + Ghrita +Amalaki, Ardraka Khanda
- 5. Bhaishajya Ratnavali<sup>[41]</sup>: Yashtyadi Kwatha, Goghrita +Maricha As Vardhamana Prayoga , Haridra Khanda, Brihat Haridra Khanda, Shleshma pittantak Rasa, Veereshavar Rasa, Sheetapitta prabhanjana Rasa, Durva + Nisha-Lepa, Siddhartha + Rajani +Kustha+ Prapunnada + Tila + Katu Taila-Udvartana, Katu Taila-Abhyanga and Kshara+ Rocksalt + Oil-Abhyanga
- Yogaratnakar<sup>[42]</sup>: Vardhamana Pippali, Vardhamana Lasuna Prayoga, Agnimantha yog, Nimbapatra Yoga, Amrutadi Yoga, Sidharthak Yoga and Kushtadi Churna.

## Pathya-Apathya<sup>[43]</sup>

Pathya: Jeerna Shali Triphala Madhu, MudgaYusha, Kulattha Kwath, Ushnodak, Dadima Phala, Moolak Yusha and Shigru.

Apathya: Ksheera Vikarani. Ikshu Vikarani, Matsya, Naveena Madhya Snigdha-Amla-Madhur Ahar, Chhardi Nigraha, Divaswap, Virudhahar and Atap Sevan

#### DISCUSSION

Abhishyandi Ahar, Adhyashan, Guru-Snigdha Bhojan, Dadhi etc. are responsible for Kapha prakop and Mandagni ultimately which causes Rasadushti. Ati lavan, Katu, Kshara, Tikshna Dravya causes Pittaprakop and Raktadushti. Vataprakop and Tvak Vaigunyakara Nidan like Sheeta Marut Sparsh, Chhardi- Nigraha and Shishir Ritu. In these diseases Vata and Kapha is vitiated along with Pitta. The vitiated Kapha merges with Pitta and vitiated Vata cause Vimarg-Gaman in Tvak. Hence these are Tridoshaj conditions. The symptoms include Varati-Damshta-Samsthana Shotha and Kandu Bahulya caused by vitiation of Kapha, Shula caused by Vata and Daha caused by vitiation of Pitta. Snehan- Swedan, Vaman, Virechan, Lepa and Udavartana are principles of treatment of Sheetpitta. Vaman is better for Kaphaj condition and Virechan and Raktamokshan for Pittaj and Raktadushtijanya condition.

In Shaman treatment Navakarshika Guggulu, Haridra Khanda, Shleshma-Pittantako Rasa, Kwath Pana of Amrutadi Gana etc. can be used. In Bahya Parimarjan

Chikitsa different Lepa, Udavartan and Abhyang are described like Sidharthak Udavarthana, Durvadi Lepa, Abhyang with Katu Tail etc. are depicted.

Pathya-Apathya which are already mentioned above are important to restrict reoccurrence and also for the prevention of these conditions.

#### CONCLUSION

In modern science there is corticosteroids and antihistaminic drugs which are used for treatment of Urticaria and other allergic skin disorders, but recurrence of disease is commonly found. Ayurved has lot of potential in the treatment aspect of allergic skin reactions by using various Ayurvedic treatment modalities and formulations. Recurrences can be prolonged or avoided by following Pathya- Apathya in logical manner.

#### REFERENCES

- 1. API Textbook of Medicine, edited by Surendra K. Sharma, Yash Pal Munjal, A. K. Agarwal, Published by Association of Physician of India; 9th edition, 2012; 479, 491.
- 2. <a href="https://emedicine.medscape.com/article/762917-overview">https://emedicine.medscape.com/article/762917-overview</a> (5pm19/12/2022)
- 3. Flynn CA, Griffin G, Tudiver F(2002)
  Decongestants and antihistamines for acute otitis media inchildren
- Madhavanidana of Madhavakara with Madhukoshavyakhya by Vijayarakshita and Shrikanthadatta, Hindi Edited by Prof. Yadunandan Upadhyaya. Varanasi: Chaukhamba Surabharati Prakashana; Reprinted, 2010; 201. Sheetpittodard kothanidanam/2.
- Bhavprakash of Sri. Bhavmishra with hindi commentary by Pandit Sri. Bhahmasankarmishra. Part 2nd Chaukhamba Surbharti Publication. Fifth Edition, 1993; 543 sheetpittodardkothotkothaadhikar/2.
- Bhavprakash of Sri. Bhavmishra with hindi commentary by Pandit Sri. Bhahmasankarmishra. Part 2nd ChaukhambaSurbharti Publication. Fifth Edition 1993. PP 543 sheetpittodardkothotkothoadhikar/3.
- 7. Vangsen Samhita of "Vangsena" by Sri. Shaligramji Vaidya, Edited by Vaidya. Shankarlalji Jain. KhemrajShrikrishnadas Publication, Mumbai. 1st edition, 1996; 645 Sheetapittakothoadhikar/2
- 8. Agnivesh, Charak Samhita commentary by Brahma Nand Tripathi, ChaukhambaSurbharti Sansthan, Varanasi, Sutra 4/17, 43. 24.
- 9. Sushruta, Sushruta Samhita Hindi translation by Dr. Anant Ram Shastri, ChaukhambaSurbharti Prakashan, Varanasi, Sutra 38/13. 25.
- 10. Bhaishajya Ratnavali Vidyotini Hindi commentary by Ambika Dutta Shastri, Chaukhamba Orientalia, Varanasi, SheetapittaUdarda-Kotha7, 12-16, 17-21, 28-30, 31-32, 37-41. 26.
- 11. Yogratnakar, Hindi commentary by Laxmipati Shastri, III Edition, 1983, Chaukhamba Sanskrit

- Sansthana, Varanasi, Udarda-Kotha-Sheetapitta Chikitsa, 7, 12.
- 12. Bhavprakash by Bhavmishra, Vidyotini commentary, Fifth edition, Chaukhamba Sanskrit Sansthan, Varanasi, Madhya Khand 55/8, 9-14, 15-20.
- 13. Chakrapanni Dutta, Ayurveda Deepika commentary on Charaka Samhita, Edited by Vaidya Yadavji Trikamji Chaukhamba Surbharti Prakashan, Varanasi, Udarda-Kotha-Sheetapitta Chikitsa 1, 2, 5, 6, 7, 8, 10, 11, 23.
- 14. Sushruta, Sushruta Samhita Hindi translation by Dr. Anant Ram Shastri, Chaukhamba Surbharti Prakashan, Varanasi, Uttar tantra 1, verse 25.
- 15. Sushruta, Sushruta Samhita Hindi translation by Dr. Anant Ram Shastri, Chaukhamba Surbharti Prakashan, Varanasi, Sutra 42, verse 14.
- 16. Ashtang Hridaya of Vagbhata, Hindi Translation by Kaviraja Atrideva Gupta, Chaukhambha Prakashana, Varanasi, Sutra 18, verse 22.
- 17. Vaidya Lakshmipatishastri, Yogaratnakar Hindi Translation, Chaukhambha Prakashana, Varanasi. Uttarardha, Sheetapittadinam Chikitsa prakarana verse 14, 236.
- Commentary on Ashtang Hridaya of Vagbhata, Sanskrit Translation by Sarvangsundari, Nidana 2, verse 22.
- 19. Agnivesh, Charak Samhita- Hindi Translation by Brahamananda Tripathi, Chaukhambha Bharati Academy Varanasi-2007, Sutrasthana Chapter 21, verse 25.
- 20. Madhavanidana of Madhavakara with Madhukoshavyakhya by Vijayarakshita and Shrikanthadatta, Hindi Edited by Prof. Yadunandan Upadhyaya, Varanasi: Chaukhamba Surabharati Prakashana; Reprinted 2010. Chapter 50, verse 5 Sheetpittodardkotha nidanam.
- 21. Sushruta, Sushruta Samhita Hindi translation by Dr. Anant Ram Shastri, Chaukhamba Surbharti Prakashan, Varanasi, Kalpa 8, verse 80.
- 22. Agnivesh, Charak Samhita commentary by Brahma Nand Tripathi, Chaukhamba Surbharti Sansthan, Varanasi, Viman 7, verse10.
- 23. "Asthma and Allergy Foundation of America" Archived from the original on 6 October 2012. Retrieved 23, December 2012.
- 24. Dr. S.N. Chugh, and Dr Ashima Chugh; Textbook of Medicine, Arya publication, New Delhi, second edition, 2010; 1244.
- 25. Madhavanidana of Madhavakara with Madhukoshavyakhya by Vijayarakshita and Shrikanthadatta, Hindi Edited by Prof. Yadunandan Upadhyaya. Varanasi: Chaukhamba SurabharatiPrakashana; Reprinted 2010. Chapter 50, verse 2 Sheetpittodardkotha nidanam.
- 26. Madhavanidana of Madhavakara with Madhukoshavyakhya by Vijayarakshita and Shrikanthadatta, Hindi Edited by Prof. Yadunandan Upadhyaya. Varanasi: Chaukhamba SurabharatiPrakashana; Reprinted 2010. Chapter 50,

- verse 3 Sheetpittodardkotha nidanam.
- Harrisons Manual of Medicine; Editors- Dan L. Longo, Anthony S. Fauci, Dennis L. Kasper, Stephen L. Hauser, J. Larry Jameson, Joseph Loscalzo 18 Edition, 1061.
- 28. Madhava Nidana Hindi Translation by Narendranath Shastri, Motilal banarasidas Pratisthana, Delhi, Chapter 57, verse 1, 638.
- 29. Boloor A. Manual for Medicine: Health Science Publisher. New Delhi, 2018; 1125.
- 30. Joint Task Force on Practice Parameters. The diagnosis and management of urticaria: A practice parameter. Ann Allergy Asthma Immunol, 2000; 85: 521–44.
- 31. Mahajan P.: Dermatology in General Practice 2013: paras medical publisher, 2016; 136.
- 32. Tripathi I.: Chrakradatta UdardakothShitpitta Chikitsa 51/13: Chaukhmbha Sanskrit Bhavan Varanasi, 2018; 294.
- Puroshottam Nanal Vaidya, Bhaprakasha Samhita -Marathi Translation, Raghuvanshi Prakashana, Pune. Madhyam Khanda, Shitapitta-Udarda-KothaUtkotha Adhikar, 666.
- 34. Vaidya Lakshmipatishastri Yogaratnakar, Chaukhambha Prakashana, Varanasi. Uttarardha, Sheetapittadinam Chikitsa prakaraan 14, 236.
- 35. Lalachandaji Vaidya, Bhaishajya ratnavali Hindi Translation, Motilal Banarasidas Pratisthana, Varanasi, Shitapitta-Udarda-Kotha Adhikar, 601.
- Vaidya Lakshmipatishastri, Yogaratnakar Hindi Translation, Chaukhambha Prakashana, Varanasi. Uttarardha, Sheetapittadinam Chikitsa prakarana verse 14, 236.
- 37. Tripathi B., Charak Samhita, Chaukhambha Bharati Academy Varanasi-2007, Sutrasthana 4/43, 94, Sutrasthana 27/290, 536, Chikitsasthana 7/65-67, 313.
- 38. Shastri A.: Sushrut Samhita Sutrasthan 38/25: Published by Chaukhambha Sanskrit Sansthan, Varanasi, 2016; 185.
- 39. Tripathi I.: Chrakradatta UdardakothShitpitta Chikitsa 51/1-11: Chaukhmbha Sanskrit Bhavan Varanasi, 2018; 293-94.
- Puroshottam Nanal Vaidya, Bhaprakasha Samhita -Marathi Translation, Raghuvanshi Prakashana, Pune. Madhyam Khanda, Shitapitta-Udarda-KothaUtkotha Adhikar, 666.
- 41. Lalachandaji Vaidya, Bhaishajya ratnavali Hindi Translation, Motilal Banarasidas Pratisthana, Varanasi, Shitapitta-Udarda-Kotha Adhikar, 601.
- Vaidya Lakshmipatishastri Yogaratnakar, Chaukhambha Prakashana, Varanasi. Uttarardha, Sheetapittadinam Chikitsa prakaraan 14/3-23, 235-36.
- Vaidya Lakshmipatishastri Yogaratnakar, Chaukhambha Prakashana, Varanasi. Uttarardha, Sheetapittadinam Chikitsa prakaraan 14/14 1,2, 237.