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LITERATURE ASPECT ROLE OF DURALABHADI CHOORNA AND VIDANGADI CHOORAN IN THE MANAGEMENT OF VATAJA KASA (TROPICAL PULMONARY EOSINOPHILIA)**Dr. Sanjay A. Dhurve^{1*}, Dr. Shalini Dhawan^{2*}, Umesh Ghate^{3*}, Dr. Suryajeet H. Pawar^{4*}, Dr. Kirti Bhati^{5*}**

1*. Associate Professor, Department of Kayachikitsa, Bharati Vidyapeeth (Deemed to Be) University College of Ayurved, Pune, India Email.ID- dr.sanjaydhurve@gmail.com

2*. M. D. PG (Scholar) Department of Kayachikitsa, Bharati Vidyapeeth (Deemed to Be) University College of Ayurved, Pune, India Email.ID- shalinidhawanrs@gmail.com

3*. Assistant Professor, Kriya Sharir Department, Bharati Vidyapeeth (Deemed to be University), College of Ayurved, Pune. Mail id – umesh.ghate@bharatividyaapeeth.edu; drumeshghate@gmail.com

4*. Associate Professor, Department of Agad Tantra, Bharati Vidyapeeth (Deemed to Be) University College of Ayurved, Pune, India Email.ID- suryajeet.pawar@bharatividyaapeeth.edu

5*. Professor & HOD, Department of Swasthavritta and Yoga, Bharati Vidyapeeth (Deemed to Be) University College of Ayurved, Pune, India Email.ID-kirti.bhati@bharatividyaapeeth.edu

Corresponding Author: - Dr. Sanjay A. Dhurve B.A.M.S., M.D., Ph.D., Associate Professor, Department of Kayachikitsa, College of Ayurved Bharati Vidyapeeth (Deemed to Be) University, Pune, Maharashtra, India Email.ID - dr.sanjaydhurve@gmail.com

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ABSTRACT: Eosinophilic inflammation is one of the hallmarks of allergic disease, and accumulation of eosinophils in affected tissues is a feature of diseases such as allergic rhinitis, asthma etc. Pulmonary Eosinophilia (PE) is pulmonary infiltration with increased eosinophilic count in peripheral blood. Environmental pollutants are shown to have alarming consequences for human health and they have important effects related to environmental pollution and the origin of hypersensitivity and pollen allergy. Vataja Kasa (~cough caused by Vata dosha) which is stated to be caused due to Dhumopaghata (~affected by Smoke), Rajah sevana (~inhalation of dust, pollen) can be understood as Pulmonary eosinophilia to diagnose and manage the disease effectively in a clinical setup. Tropical Pulmonary Eosinophilia (TPE) occurs predominantly in males with male: female ratio of 4:1, it is seen more between the age group of 15-40 years and is considered to be endemic in India. Attempts to co-relate Vataja Kasa (type of Cough due to Vata humor) to Tropical Pulmonary Eosinophilia have been done by many researchers. Usage of Vidangadi Choorna in Vataja Kasa has been highlighted in the classics of Ayurveda, which has not been evaluated yet. In this paper we will discuss. Role of Duralabhadi Choorna and Vidangadi Chooran in the Management of Vataja Kasa

KEYWORDS: Vidangadi Chooran, Vataja Kasa, Asthma, Vata Dosha, Rajah Sevana, Tropical Pulmonary Eosinophilia, Prasakta Vega

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INTRODUCTION:

KASA – Kasa word is derived from the root “Kasri” i.e. “shabda kutsanyam” which means “unpleasant sound”. Gangadhara, the commentator describes Kasa from the dhatu “kasri”, which means “bhinnaswara”. Commentator Chakrapani derived the word Kasa from the root ‘Kas’ i.e. “gati-shatanayoh” which means “falling movement.”^[1]

Kasa (~cough) word is a masculine gender and taken from the root “kasru” which means "unpleasant sound", "broken bronze sound". Kasa is derived from the root of “kas” which is used for Gati (~movement) and Shatana (~discomfort), where it refers to Urdwagathi (~upward movement) and discomfort, weakness in urah pradasha (~thorax region) respectively. Paribhasha (~definition) of Kasa is release of obstructed vayu resulting in the production of abnormal sound in the form of productive or dry cough. Acharya Dalhana says Kasa means forceful expulsion of the prana vayu (~a type of vata dosha) resulting in the production of sound resembling that of a broken bronze vessel is called Kasa

VATAJA KASA: - The word "Vataja Kasa" consists of two components viz., Vataja and Kasa.

Vataja - The word Vata belongs to “Pulling” derived from the root Vagati Gandhanayoho and "Tha" Prathyaya giving the meaning "to move", "to make known", "to enlighten". Ja means "produced by".

Vataja Kasa Vataja Kasa is a type of Kasa, enumerated in detail in Bruhatrayees and Laghutrayees. Separate Nidana (etiology), lakshana (signs and symptoms) and Chikitsa (treatment) mentioned for Vataja Kasa depicting its importance in terms of management which differs for each type. Kasa is explained as a associated symptom, complication, premonitory symptom and disease.^[2]

Chakrapani Dutta has commented on the word Kasa as in drawing of chest wall (Ura) during coughing. Acharya Sushruta defined Kasa as the disease associated with a typical sound similar to sound obtained from broken bronze vessel. According Sanskrit English dictionary by Sir Monier Williams Kasa means “cough”. Most of the Nidanas explained in Ayurvedic classics were found to act as precipitating or triggering factors in production of Kasa especially Vihara Sambandhi Nidanas like exposure to Raja, Dhooma and Sheeta Vayu.

Vataja Kasa is one of the prominent respiratory diseases. Acharya Charaka has mentioned causative factors of Vataja Kasa specifically. Vagbhata has mentioned that all the causative factor that vitiates vata are the causative factor for this disorder. He has quoted that the increase in Vata arises due to excessive indulges of factors which is having the similar properties of Vata. Causative factors can be divided into dietary (Aharaja), behavioral (Viharaja), psychological (Manasika), inappropriate panchakarma administration (Panchakarma Apacharaja) and other factors. Dietary causes (Aharaja Nidana) - They are mentioned either in the form of tastes (Rasa) or properties (Guna), which cause increase in certain doshas. 'Kasa' is one of the important disorders which is well explained by classical texts of Ayurveda.

The abnormal Prana Vata and Udana Vata takes an unusual course through throat and mouth along with other Doshas and ousted out tersely with a ‘coughing sound’ like the broken-bronze vessel. The clinical symptoms of Vataja Kasa has been explained in Ayurveda classical texts as severe pain in the epigastric region, sides of chest, and head; extreme voice hoarseness; dryness in the

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throat, chest and mouth; horripilation and fainting; echoing sound throughout coughing, appearances hopeless, dull sound in coughing; weakness, stressed, illusive views; dry cough, expectorate small amount of phlegm with pain, the Kasa gets relieved by the food and drinks which are unctuous, sour, salty and hot; and the upward movements rises Vata after the digestion of food.^[3]

Cough executes a crucial protective role for human airways and lungs. It is commonly a sign to the presence of respiratory disorder, particularly acute respiratory tract infections. Feeble or an ineffective cough compromises the ability to clear lower respiratory tract secretions, prejudicing to extra serious infections and their complications. Deprived of an effective cough reflex, a person is at the risk for retained airway secretions and aspirated material predisposing to infection, atelectasis, and respiratory compromise. Vataja Kasa is frequently equated to Tropical Pulmonary Eosinophilia (TPE); due to the resemblances of signs and symptoms.^[4] TPE is a syndrome causing from immunological hyper responsiveness to human filarial parasites *Wuchereria bancrofti* and *Brugia malayi*. The filaria are transferred to humans by mosquitoes and mature worms ultimately exist in the lymphatics. There they discharge microfilariae, which runs to the lungs and produce a strong inflammatory reaction. TPE is an occult form of filariasis and is having symptoms like dry cough, dyspnea, night-time wheezing etc., and noticeable peripheral blood eosinophilia. TPE affects males and females at a ratio of 4:1 frequently during the third decade of life. As India is one of the tropical countries; the prevalence of TPE (Vataja Kasa) is strangely high. It is endemic in Maharashtra, Goa, Kerala, Karnataka, Andhra Pradesh, Orissa, Bengal, Bihar and coastal areas. Early intervention is necessary in Kasa as it is a potential Nidanarthakara Vyadhi as it can produce Kshaya.^[5]

PURVARUPA AND LAKSHANA: Purvarupas (~premonitory symptoms) mentioned as Shukapurna gala-asyata (~feeling of thorns in throat and oral cavity), kante kandu (~throat itching), Bhojyanam avarodha (~difficulty in swallowing). Lakshanas highlighted are Shushka Kasa (~Dry cough), Prasakta vega (~paroxysmal cough), Shirashula (~headache), Parshwa shula (~flanks pain), Hrit shula (~chest pain), Swarabheda (~hoarseness of voice), Dourbalya (~fatigue), Moha (~confusion), Shushka kanta (~dryness in throat), Anga harsha (~horripilation), Kshobha (~irritation), Snigdha, Amla, Lavana Bhukta Peeta Prashamyati (~reduction of symptoms on intake of unctuous, sour, salty food), Urah shula (~pain in thorax).^[6]

REVIEW OF LITERATURE:

Yadav et al., (2023) Pulmonary Eosinophillia defined as the infiltration of eosinophils into the lung compartments constituting airways, interstitium and alveoli. The true incidence of topical pulmonary Eosinophillia is not unknown. It is more common in women, who are affected twice as much as men with the majority of them being nonsmokers. Eosinophillia are one of the main cells of allergic inflammation. From the Ayurvedic view Pulmonary Eosinophillia falls under Kasa spectrum especially Vataja Kasa Roga. This seems nearer to the fact as presenting symptoms is Krichra Swasa, dry cough, Swarabheda, Kantha Kandu Aruchi, Dourbalya whereas in tropical eosinophilia also symptoms represent the same. Present study is an attempt to treat a case of

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pulmonary eosinophilia. A 32-year-old female patient approached to OPD with the complaints of Kasa, Swarabheda, Dourbalya, Kantha Kandu on and episodic attack for one year. The patient on anti-allergic and antibiotics for one year and no remarkable relief noticed the patient. She approached for Ayurvedic management and reduction in the symptoms was noticed by patient. Hence, this case report was taken to prove the Ayurvedic management has remarkable results in case of Pulmonary Esinophillia. Discussion and conclusion were done on the basis of entire observation.^[7]

Ludlow et al., (2015) This review examines the current level of knowledge and techniques available for the study of laryngeal reflexes. Overall, the larynx is under constant control of several systems (including respiration, swallowing and cough) as well as sensory motor reflex responses involving glossopharyngeal, pharyngeal, laryngeal, and tracheobronchial sensory receptors. Techniques for the clinical assessment of these reflexes are emerging and need to be examined for sensitivity and specificity in identifying laryngeal sensory disorders. Quantitative assessment methods for the diagnosis of sensory reductions and sensory hypersensitivity may account for laryngeal disorders, such as chronic cough, paradoxical vocal fold disorder, and muscular tension dysphonia. The development of accurate assessment techniques could improve our understanding of the mechanisms involved in these disorders.^[8]

Kumar et al., (2022) In the present era of COVID -19, management of respiratory disorders is becoming a challenge to the world. Ayurveda, the science of life, provides a lot of hope in the present condition by assuring better results in the field of prevention and management of respiratory diseases. Cough carries out an essential protective function for the respiratory tract and lungs. Kasa (cough) is one of the commonest complaints in day-to-day life and it is also a symptom of various diseases of the respiratory system. In Ayurveda, Acharyas have explained Kasa in detail. They have described five types of Kasa. Among the various respiratory diseases, Vataja Kasa (dry cough) has been selected here. In the contemporary science, it can be correlated to Allergic Bronchitis, which is one of the common problems throughout the world. In the present study Vasa Bhavit Haridra Churnam (VBHC) has been selected from Siddh Bhaisajya Manimala and further details regarding the ingredients were collected from various text books, PubMed, research articles, previous works done etc. As per the data collected, Allergic Bronchitis when treated with Vasa Bhavit Haridra Churnam will be effective in relieving the symptoms. Ayurveda has a vital role to play in the field of respiratory ailments.^[9]

Sultana et al., (2016) A cough occurs suddenly and often repetitively which helps to clear the large breathing passages from secretions, irritants, foreign particles and microorganisms. Coughing can be due to a respiratory tract infection such as the common cold, acute bronchitis, pneumonia, pertussis, flu and smoking or health problems such as asthma, tuberculosis and lung cancer. Substantial uses of folk remedies for different medical conditions have been documented. The remedies included cinnamon, ginger, clove, cardamom, honey, lemon, garlic, onion, turmeric and licorice.^[10]

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OBJECTIVES:

- To prepared Duralabhadi Choorna with stand Ayurvedic protocol and analyses in laboratory with API parameter.
- To study the change in eosinophil count in patients of Vataja Kasa.
- To study the side effect of Duralabhadi Choorna if any.

RESEARCH METHODOLOGY: Literature pertaining to Vataja Kasa from Ayurvedic classical literatures, Pulmonary eosinophilia from contemporary texts and reputed journals are referred to gather information.

RESULT AND DISCUSSION:

NIDANA OF KASA: Nidaana is the cause for all disease and one among the five factors (Nidaana Panchaka) for the diagnosis of any disease. It is classified into different groups in Ayurvedic classics on different basis.

Nidaana is categorized broadly into two main divisions;

- Samanya Nidaana (General causative factor)
- Vishsha Nidaana (Specific causative factor)
- **Saamaanya nidana:** -

General etiological factors are responsible for the manifestation of all varieties of Kasa whereas the specific etiological factors are responsible for the specific variety of Kasa.

For the better understanding of Nidaanaas can also be grouped into two groups;

- Aahaaraja Nidaana
- Vihaaraja Nidaana

- **Aahaaraja Nidaana of Kasa**

Table **Error! No text of specified style in document.:** Showing Aahaaraja Nidaana of Kasa in different classics [11]

Sr. No	Nidaanaas	C.S	S. S	A. S	B. S	H. S	M.N	Y.R	B.P	G.N	B.R
1.	Rookshaahaara Sevana	√	√	√	√	×	√	√	√	√	√
2.	Ati Kashaayarasa Aahaara Sevana	√	√	×	×	×	×	×	×	×	×
3.	Sheeta Aahaara Sevana	√	√	×	×	×	×	×	×	×	×
4.	Asaatmyaahaara Sevana	×	√	√	√	√	×	×	×	×	×
5.	Alpaahaara Sevana	√	√	×	×	×	×	×	×	×	×
6.	Bhojanasya Vimaargagamana	×	√	√	×	×	√	√	√	√	√

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C.S: - Charaka Samhita, S. S.: - Sushruta Samhita, A. S: -Ashtaanga Sangraha, B. S: -Bhela Samhita, H.S Haareeta Samhita, Y.R:-Yoga Ratnaakara, B.P:-Bhaava Prakaasha, M.N:-Maadhava Nidaana, G.N:-Gada Nigraha, B.R:- Bhaishajya Ratnaavali

Vihaaraja nidaana of Kasa: -

Table 2: Showing Vihaaraja Nidaana of Kasa in different classics;

Sr. No	Nidanaas	C.S	S.S	A.S	B.S	H.S	M.N	Y.R	B.P	G.N	B.R
1.	Dhoomopaghaata	×	√	×	√	√	√	√	√	√	√
2.	Rajasevana	×	√	×	×	√	√	√	√	√	√
3.	Shrama	√	√	√	√	√	√	√	√	√	√
4.	Vegaavarodha	√	√	√	√	×	√	√	√	√	√
5.	Haasyapraharsha	×	×	×	×	√	×	×	×	×	×
6.	Anila Sannirodha	×	×	×	×	√	×	×	×	×	×
7.	Vega Udeerana	×	×	√	×	×	×	×	×	×	×
8.	Raatri Jaagarana	×	×	√	×	×	×	×	×	×	×
9.	KshavathuDhaarana	×	√	√	√	√	√	√	√	√	√

Vishesha nidaana

Aachaarya Charaka has given the special etiological factors for the causation of individual type of Kasa.

Table 3: Showing Vishesha aahaaraja nidaana of Kasa

Sr. No	Vataja Kasa	Pittaja Kasa	Kaphaja Kasa	Kshataja Kasa	Kshayaja Kasa
1.	Rookshaahaara	Katu Ahaara	Guru Aahaara		Vishama Aahaara
2.	Sheetaahaara	Ushnaahaara	Abhishyandhi Aahaara	-	Asaatmya Aahaara
3.	Kashaayaahaara	Vidaahi Aahaara	Madhura Aahaara		
4.	Alpaahaara Sevana	Amla, Kshaara Aahaara	Snigdha Aahaara		
5.	Pramitaashana				

6.	Anashana				
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Vihaaraja nidaana –

Table 4 Showing vishesha vihaaraja nidaana of Kasa;

Sr. No	Vataja Kasa	Pittaja Kasa	Kaphaja Kasa	Kshataja Kasa	Kshayaja Kasa
1.	Ati Stree Sevana	Krodha	Swapna Vicheshta	Ati Vyavaaya	Ati Vyavaaya
2.	Vegadhaarana	Agni Santaapa	Avyaayaama	Bhaara Vahana	Vega Dhaarana
3.	Aayaasa	Soorya		Adhwa	Ghruninaam
4.		Santaapa		Yuddha	Chintaa

Poorwaroopa of Kasa

There is no specific premonitory sign (poorvarupa) told for individual type of Kasa in Ayurvedic classics. So, the general premonitory signs for the Kasa can only be taken as the poorvarupa of the Vataja Kasa as mentioned in Charaka samhita, Sushruta samhita, Ashtanga Hridaya samhita.

Table 5: Premonitory (Poorvarupas) Signs

Premonitory signs	Charaka Samhita	Sushruta Samhita	Ashtanga Hridaya Samhita
Sensation as if throat filled with thorns (Shookapurnata in gala)	+	-	-
Sensation as if mouth filled with thorns (shookapurnata in Asya)	+	-	-
Sensation as if Kantha filled with thorns (sukapurnata in Kantha)	-	-	+
Itching sensation in the throat (kandu in kanhta)	+	+	+
Inability to swallow food (avarodha of bhojana)	+	+	-
Sensation of coating in throat (galalepa)	-	+	-
Sensation of coating at palate (talulepa)	-	+	-
Disturbed speech (shabda vaishamya)	-	+	-
Anorexia (arochaka)	-	+	-
Low digestive power (agnisada)	-	+	-

The prodromal symptoms of Vataja Kasa are not mentioned in classics. So that the general purvarupas said can be considered for all types of Kasas. The Purvarupas said in classics are spiky sensation in the throat and mouth, itchy sensation in throat, obstruction of food morsel in the throat, coating of throat and palate, aversion of food and decreased appetite (Munjhal et al., 2018).

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Poorwaroopa are those signs and symptoms which appear earlier to the actual disease. They manifest during the stage of Dosha Dooshya Sammoorchana. The Poorwaroopa of Kasa are tabulated below; [12]

Table 6 Showing Poorwaroopa of Kasa in different classics

Sr. No	Poorvarupa	C.S	S.S	A.S	A.H	M.N	G.N	B.P	V.S
1.	Shooka Poorna Gala	√	×	√	√	√	√	√	√
2.	Shooka Poorna Aasya	√	×	×	×	√	√	√	√
3.	Kante Kandu	√	√	√	√	√	√	√	√
4.	Bhojyaanaamavarodha	√	√	×	×	√	√	√	√
5.	Arochaka	×	√	√	√	×	×	×	×
6.	Sashabdha Vaishamya	×	√	×	×	×	×	×	×
7.	Agnisaada	×	√	×	×	×	×	×	×
8.	Gala Lepa	×	√	×	×	×	×	×	×
9.	Taalu Lepa	×	√	×	×	×	×	×	×
10.	Hrudaya Aswasthataa	×	×	√	×	×	×	×	×
11.	Kavala Galane Vyadha	×	×	×	×	×	×	√	×

Clinical Features

Tropical pulmonary eosinophilia (TPE) occurs mostly in young males with a male female ratio of 4:1 and in an age group between 15- 40 yr¹⁸. It may involve multiple body systems but predominantly affects the lungs. Udwardia reported in his study that about 7 per cent of patients had only non-pulmonary manifestations. The respiratory symptoms are chiefly cough, breathlessness, wheezing and chest pain. Symptoms are mostly nocturnal but may also occur during the day. Sputum production is in scanty quantities and may be viscous and mucoid. Sputum eosinophilia is often present. Chest pain may be due to rib fractures caused by excessive vigorous coughing.

Table 7 Clinical features (Roopas) Signs

Clinical features	Charak	Sushrut	Ashtang
Dry cough	+	+	+
Coughing with	+	+	+
Headache (Shira)	+	+	+
Pain at heart	+	+	+
Pain in flanks	+	+	+

Chest pain	+	-	+
Weakness in	-	+	-
Weak immune	-	+	-
Weak voice	-	+	+
Hoarseness of	+	+	-

Pathogenesis

Pathogenesis (samprapti) is helpful to understand the disease has manifestation after indulgence in causative factors. Acharya Charaka has explained general pathogenesis of Kasa as vitiated prana and udana vata, attains upward movement and gets filled up in the channels, which are present in the head, chest and neck region. Vitiating of prana and udana vata and blocking of channels of respiratory system results in increased pressure inside the channels of eyes, nose, ear and throat. It creates severe painful contraction of muscles in the areas like mandibular joint and cervical region, resulting in forceful expulsion of air producing a typical sound in the presence or absence of sputum is known as Kasa. Acharya Sushruta has mentioned that pathogenesis of Kasa as after consumption of causative factors, vitiating of prana vata takes place and this gets mixed with udana vata, and additionally moves upwards. The increase of these two types of vatas causes unusual, forceful expulsion of vayu from the mouth creating a peculiar sound similar to that of sound Produced by broken bronze vessel. Vagbhata also preached the same opinion. [13]

Table 8 Pathogenesis of Vataja Kasa

Clinical features	Charak	Sushrut	Ashtang
Kshamanana	-	+	-
Dryness in chest	+	-	-
Dryness in	+	-	+
Dryness in	+	-	+
Kasa gets alleviated by the food and drinks	+	-	+
The upward movements	+	-	+
Illusive (Moha)	+	-	+
Kshobha	+	-	+
Horripilation	-	-	+
Agitated	+	-	-
Pain at temporal	-	+	-

Management of Vataja Kasa

Management of Vataja Kasa is based on the diseased person and the strength of diseased one. The choice of management can be purificatory (shodhana) or palliative (shamana) in Vataja Kasa. However, the purificatory therapies are advised for Vataja Kasa management; it's always recommended to choose palliative option in this disorder. Actually, there is a need of different

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mode of tactics at different stages. Practically, one should maintain multiple line of management. It can be tabulated as follows –

Table 8 Management (Chikitsa) protocols

Management Protocols	Charaka samhita	Sushruta samhita	Ashtanga Hridaya
Snehana	+	+	+
Vataglama Siddha	+	-	+
Ghrita Pana	+	-	+
Sneha Dhooma	+	-	+
Abhyanga	+	-	+
Parisheka	+	-	+
Basti	+	-	+
Sapitta- gluitta papa	+	-	+
Sakapha- sneha virechana	+	-	+
Peya, Yusha,	+	-	+
Vidarigandhadi krita gluitta	-	-	-
Sukhosima gluitta	-	-	-

Conclusion:

Vidangadi Choorna were beneficial in reducing the symptoms of Vataja Kasa. Environmental pollutants are shown to have alarming consequences for human health and they have important effects related to environmental pollution and the origin of hypersensitivity and pollen allergy. Vataja Kasa (~cough caused by Vata dosha) which is stated to be caused due to Dhumopaghata (~affected by Smoke), Rajah sevana (~inhalation of dust, pollen) can be understood as Pulmonary eosinophilia to diagnose and manage the disease effectively in a clinical setup.

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