

CRITICAL REVIEW ON GALAGANDA (HYPOTHYROIDISM)

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ABSTRACT

The thyroid is one of the most important glands of the Endocrine system that regulates almost all metabolic activities. Hypothyroidism occurs when the Thyroid gland does not produce enough thyroid hormones. Hypothyroidism trend is increasing ie.1.5 billion in 110 plus countries globally more than 2 billion and more than 40 million in India. Females are more affected than males with a ratio of females to males of 6:1. In Ayurvedic classics, disorders of the Thyroid gland are explained in the context of *Galaganda*. *Galaganda* can be correlated with Hypothyroidism which is the most common Endocrinal disorder in clinical practice. Aetiopathogenesis of Hypothyroidism relates with *Agnidushti* resulting in disturbed *Trividha avastha paka* and *Dhatwagnimandya*. Hypothyroidism is *Linga sankara* caused by *Kapha Pradhana Avarana* that leads to *Dhatwagni Dushti* at *Rasa, Rakta, Mamsa, Medovaha Strotas*. So repeated *Rukshana, Deepana-Pachana*, and *Shodhana purvaka Shamana* correct the pathology of Hypothyroidism in *Chirakari Avastha*.

Keywords: Hypothyroidism, *Agnidushti*, *Galaganda*, *Chirakari avastha*, *Shodhana*

INTRODUCTION

Panchakarma therapy is designed to eliminate vitiated *Doshas* through the nearest route and attain a state of equilibrium. The sedentary lifestyle and stress-filled modern era have led to the alteration of neuro-endocrinal activities with newer health challenges like Hypothyroidism. Approximately 200 million of the world's population are suffering from Thyroid disorders more commonly Hypothyroidism. In India, nearly 9 million cases were reported with Hypothyroidism. Prevalence of Hypothyroidism is 1:10 but increases to 5:100 when patients with subclinical Hypothyroidism are included. The female and male ratio is approximately 6:1¹. Involvement of multiple systems in the pathogenesis features mixed signs and symptoms with complex clinical presentation of Hypothyroidism. There is no direct evidence of Hypothyroidism in Ayurvedic classics. With clinical presentation, Hypothyroidism can be correlated with *Dhatwagni Mandya Janit Vikara*. Proper treatment should be planned by understanding *Vikara Prakriti*, *Adhishtana*, and *Samutthanam Visheshha* when it is difficult to name the disease. Assessment of *Nidana Panchaka*, *Agni*, *Dosha*, *Dushya*, *Srotas*, *Srotodusti* in Hypothyroidism indicates *Kapha Pradhana Avarana Yukta Tridoshaja Vyadhi*. This is due to *Dusti of Rasa, Rakta, Mamsa, Meda Dhatus as a result of Dhatwagnimandya*. An abnormal state of *Medagni* and *Mamsagni* is followed by the involvement of other *Dhatwagni* in later stages. Hypothyroidism is *Linga sankara* caused by *Dhatwagni Dushti* and *Kapha Pradhana Avarana*.

The signs and symptoms of Hypothyroidism include-
Signs: dry and coarse skin, Cool extremities, Myxoedema, Diffuse alopecia, Bradycardia, Peripheral oedema, Delayed tendon reflexes, Carpal Tunnel syndrome, and Serous cavity effusions.

Symptoms: tiredness, weakness, dry skin, feeling cold, hair loss, poor concentration, Poor memory, Impaired Hearing, Constipation, Weight gain with poor appetite, Dyspnoea, Hoarse voice, Menorrhagia, and Paraesthesia.

Etymology:

The word *Galaganda* is a masculine gender formed from two words *Gala* and *Ganda*.

Gala: Derived from *Gal Dhatu* and *Acha Pratyaya*-masculine gender means throat or neck.

Gala: Pulling (Galathi Bhakshyathyanan) Gala + Karane acha (Shabdakalpadruma) Galathi nissarathi Jaladerithi (Shabdaratnavali).

The word *Ganda* is masculine gender and derived from *Gadi Dhatu* and *Acha Pratyaya* which means swelling in the neck region or enlargement of the gland of the neck (Shabdakalpadrum).

Galaganda is *Galaroga* which means swelling in the neck region-a kind of bird which has a pendulous fleshy purse hanging from its throat) – (Shabdakalpadruma) Gandaberunda

Definition:

Swollen mass large or small which hangs down like a scrotum in the neck is known as *Galaganda*. All swellings in the neck are not *Galaganda*. The only one that is bound firmly to the neck and hangs out like an egg should be termed *Galaganda*.²

MATERIALS AND METHODS

Charaka Samhita –*Galaganda* is a *Nanatmaja Kaphaja Roga*³. *Adhishtana* which is *Rohini* (sixth Layer of skin) • Considering size and features, *Galaganda* can be compared with *Goiter* associated with Thyroid disorders. • Swelling in the side of the neck region (*Gala*) is *Galaganda* - *Goiter*. A chain of multiple swellings is *Gandamala*-*Cervical lymphadenopathy*. *Galaganda* is big or small size swelling adhering firmly over the neck region (*Gala*) resembles the shape of a scrotal sac (*Muskavat*).

महान्तं शोथमल्पं वा हनुमन्यागलाश्रयम् । लंबन्तं मुष्कवद्
दृष्ट्वा गलगंडं ववननर्दिशेत्⁴

NIDANA

Factors responsible for *Dhatwagnimandya*, *Avaran*, and *Kapha vrudhi* are considered causative factors in Hypothyroidism. *Jatharagni* and *Dhatwagni Vyapara* can be co-related to metabolic activities of the Thyroid gland. Impairment of *Jatharagni* and *Dhatwagni Vyapara* are states of *Agnimandya* and *Kapha Prakopa*⁵. Hence factors responsible for the

derangement of these two may be considered causative factors for Hypothyroidism. The qualities of *Kapha dosha* are *Snigdha* (unctuous), *Sheeta* (cold), *Guru* (heavy), *Manda* (sluggish), *Slakshna* (smoothness), and *Sthira* (firm). Excessive *Ahara-vihara* with these *Gunas* causes *Kapha Prakopa* and *Agnimandya*.

POORVA ROOPA

As Hypothyroidism takes a long course of time to manifest completely and the pathogenesis of this itself is very slow due to delayed metabolism. Initially, *Aruchi*, *Ajeerna*, *Angnimandya*, and production of *ama* both at *Jatharanagi* and *Dhatvagni* level and Symptoms of *Kapha Vruddhi* -*Atinidra*, *Tandra*, *Alasya*, *Asya-vairasya*, *Anga-gaurava*, *Shaithilya*, etc. considered as *Poorvaroopa* of Hypothyroidism. Here, classical findings take months to appear - frequently go unnoticed for years, and cannot be diagnosed at their later stage.

ROOPA

Hypothyroidism results in slowing down of metabolic process with a number of clinical signs and nonspecific symptoms. The severity of signs and symptoms depends on the degree of thyroid dysfunction and the time course for the development of the disease⁶.

Features of *Galaganda* aggravate *Vata* and *Kapha* in the neck region according to *Sushruta*. *Charaka* mentioned swelling at the neck due to provoked *kapha*. *Vagbhata* mentioned vitiated *Meda* is a responsible factor for excessive pain in *Galaganda*. *Yogaratanakara*, *Madhavakara*, *Bhoja*, *Vangasen Samhita* supported the same.

In fifth kriya kala- In *Vyaktavastha*, *Roopa* of disease are exhibited depending on the predominance of *Doshas*. *Klama*, *Alasyam*, *Sheeta asahishnuta*, *Twak-Parushya*, *Malabaddhata*, *Atisthoulya*, *Kharkhara Shabda*, *Agnimandya*, *Ati nidra*, *Aswedata* are observed in Hypothyroidism.

Table 01: Similar symptoms between *Kaphaja nanatmaja vikara*⁷ -Hypothyroidism.

<i>Kaphaja nanatmaja Vikara</i>	Symptoms of Hypothyroidism
<i>Nidra adhikeyata</i>	Excessive sleep
<i>Tandra, Alasya</i>	Tiredness
<i>Apakti (Mandagni)</i>	Decreased appetite
<i>Balakshaya</i>	Weakness (slowing of physical activities)
<i>Ati sthoulya</i>	Increased weight gain

Co-relation of Signs and Symptoms with Ayurvedic Concepts:

Abnormal weight gain: Disturbed metabolism in Hypothyroidism along with an imbalance between calorie intake and energy expenditure leads to weight gain. *Dhatvagni-mandya* leads to *Medovridhhi* (increased adipose tissue).

The puffy appearance of body features

Puffiness of face especially eyelids, hands, and feet due to accumulation of hydrophilic muco-proteins subcutaneously. The predominance of heaviness and steadiness of *Prithvi* and *Apa mahabhuta* of *Kapha Dosha* results in puffiness.

Loss of appetite

Hypo-functioning of *Jatharagni* leads to *Amotpatti*, *Jatharagnimandya*, and *Dhatvagnimandya*.

Dry, coarse skin and Hair^{8,9}

Rasa Dhatvagni Mandya vitiates *Rasa dhatu* and improper Nutrition to *Uttara dhatu- Rakta* with the coarseness of skin and hair. Vitiating *Vata* causes dryness of the skin. Vitiating *Mamsa dhatu* by loosening normalcy of *Dhatuvyapar* affects *Twak* being its *Upadhatu*.

Anaemia

Dhatvagnimandya at *Rasa dhatu* is unable to nourish *Uttara dhatu- Rakta* (Blood). *Pandu* (Anaemia) is *Rasa Pradoshaja vikara*.

Constipation¹⁰

Vata prakopa (*ruksha guna*) and aggravated *Kapha* (*Manda guna*) may oppose the normal function of *Apan vayu* resulting in *Malavashtambha* (constipation).

Hoarseness of voice

Hoarseness of voice in hypothyroidism results either from mucinous Deposits in vocal cords (intra laryngeal cause) or from external pressure on a laryngeal nerve (extra laryngeal cause). According to Ayurveda, it may be due to vitiated *Kapha* (*manda guna*).

Generalised aches and pain

Rasa Dhatvagnimandya and aggravated *Vata*- manifest *Ruja, Angamarda* (generalised aches.)

Sluggishness

Due to *Agnimandya* vitiated *Rasa Dhatu* and *Ama* caused *Shaithilya, Alasya* (sluggishness).

Tiredness

It results from aggravated *vata* and vitiated *Meda dhatu*.

Menstrual disturbances

Due to hypofunction of *Agni- rasa vridhhi* occurs in *Asthayi* (unstable) form. Vitiated *dhatu* unable to nourish *Updhatu Artava* (Menstrual flow) and *stanya* (Breast milk) properly. Hence, *Artava-Pravrutti* (Menstruation) ceases. Vitiated *doshas* cause *Artavavaha Srotodushti*.

Obstruction of *Strotas* result in *Anartava* (Amenorrhoea).

Cold intolerance

Due to hypo functioning of *Agni -Rasa dhatu* gets vitiated which is unable to nourish *Uttar dhatu Rakta* and vitiated *Rakta dhatu* causes *Sheeta-asatmya* (cold intolerance).

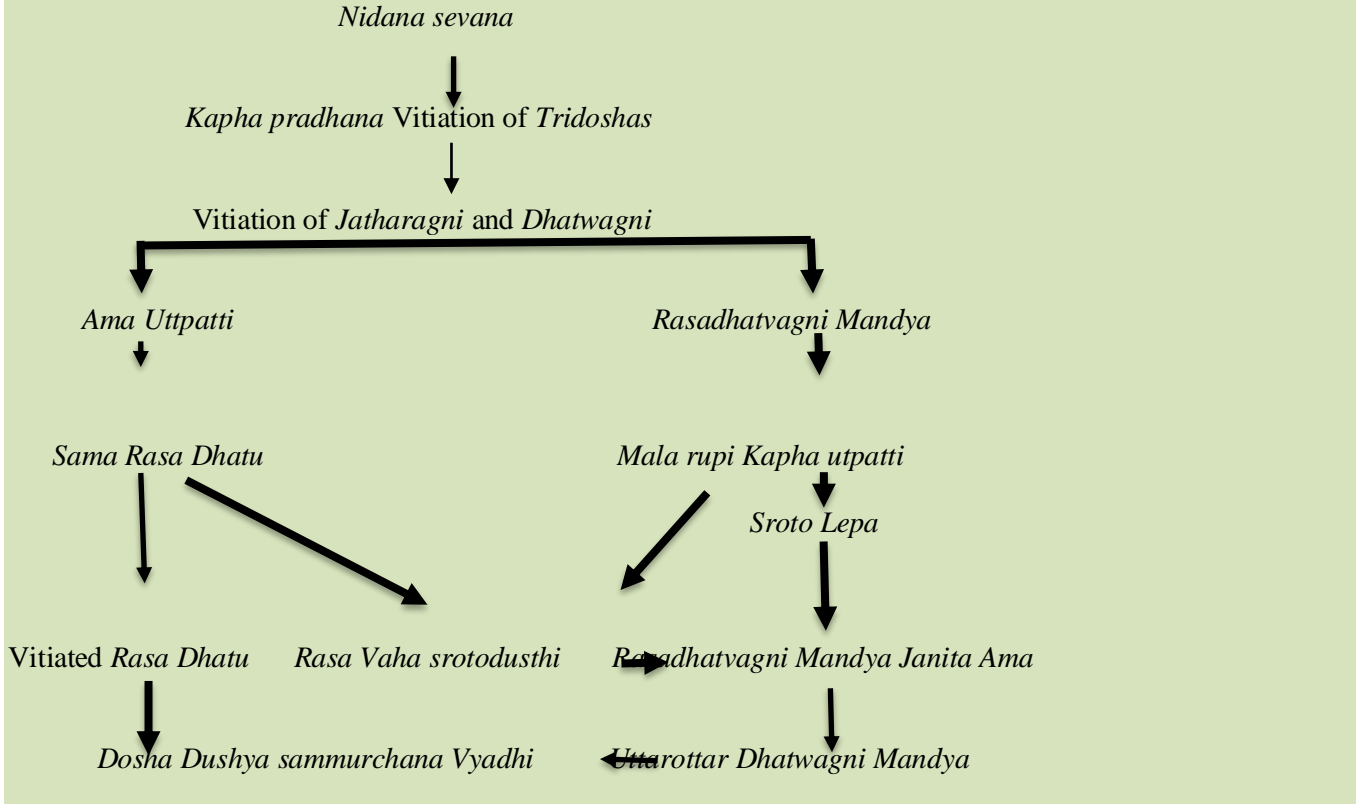
Sleepiness

Vitiated *Rasa* and due to *Manda guna Kapha* induce sleepiness.

Muscle cramps/stiffness

Kandara (Tendons) and *Snayu* (Muscles)- *Updhatu of Rakta* and *Medodhatu* respectively do not get proper nutrition. This results in their improper function. It can be correlated with slow muscle relaxation; hence stiffness occurs. Aggravated *Vata* causes cramps (*sankoch*)

Samprapti of Hypothyroidism with Ayurvedic perspective:



SAMPRAPTI GHATAKAS:

- *Dosha - Tridoshas –Kapha Avaran to Pitta and Vata*
- *Dooshya - Sapta Dhatus (Rasa, Mamsa and Meda Predominantly)*
- *Agni - Jatharagni and Dhatwagni*
- *Ama - Jatharagni Mandya Janya ama and Dhatwagni Mandya Janya Ama*
- *Srotodushti – Sanga, Vimargagamana*
- *Adhistana – Sarva Shareera*
- *Udbhava Sthana – Amashaya*
- *Sanchara sthana - Rasayani*
- *Rogamarga - Trividha Roga Marga*
- *Vyaktasthana - Sarva Shareera*
- *Roga Prakruti – Chirakari*

UPASHAYA AND ANUPASHAYA¹¹

All *Nidana* considered as *Anupashaya*. *Kaphahara Ahara -vihara* considered as *Upashaya*.

SADHYA-ASADHYATA

In the *Ayurvedic* view, Hypothyroidism can be considered as *Yapya Roga*.¹²

CHIKITSHA

The general principle of *Chikitsa* (Treatment): “*Samshodhanam Samshamanam Nidanasya Cha Varjanam*”¹³ Thus, in any disorder, management is divided into 3 parts:

1. *Nidana Parivarjana*
2. *Samshodhan*
3. *Samshamana*

NIDANA PARIVARJANA¹⁴

Both *Charaka* and *Sushruta* have laid great emphasis on the principle of *Nidana Parivarjana*. *Sushruta* recommended *Nidana Parivarjana* as an essential component in the management of any disorder - “*Sankshepta Kriyayoga Nidana Parivarjanam*”

Nidana Parivarjana Chikitsa means avoiding all *Aharatmaka*, *Viharatmaka*, *Manasika*, and *Anya Nidana* responsible directly or indirectly for the manifestation of disease. *Nidana* mentioned earlier like *Ati Madhura*, *Guru*, *Snigdha*, *Abhishyandi Ahara Sevana*, *Divaswapna*, etc. should be avoided in case of

Hypothyroidism. The predominant vitiated *dosha* should be treated first and treatment of other subordinate *doshas* should be undertaken afterwards. *Charak* has emphasized that the management of diseases, which show their effect all over the body is difficult to manage. For such *Bahu-doshawastha* conditions, proper *Shodhana* and *shamana* are necessary. Hypothyroidism affects the whole body and usually with chronic course needs *Shodhana* frequently.

CHATUSPRAKARA SAMSHUDDI¹⁵: Four types of therapies in which vitiated *Dosha* are eliminated after mobilizing them from their respective sites by *Urdhva* or *Adha marga* from the body are *Shodhan*. *Samshodhan* therapy is highly recommended for the management of *Santarpanjanya vyadhi* by *Charaka*.

Vamana

Vamana has its own importance for *Urdhwa-jatrugata vyadhi* and *Kaphaja* disorders. *Vamana karma* is considered the best line of purificatory measure and best *sroto-Shodaka*. In Hypothyroidism considering *Kapha Dosha* dominance, *Jatharagni-Dhatwagni mandya*, and impairment of metabolism as a base, in *Amadoshayukta* and *kapholbana* conditions *Vamana* can be advised. *Vaman* is selected for *Srotoshodaka*, *Agnivardaka*, *Vyadhi-pratyanika* and *Dosha-Pratyanika Chikitsa*. In *Kapha Dosha* dominant diseases *Vamana* is indicated.

Virechana

Virechana is used to expel increased *Doshas* out of the body through *Adhomarga*. It is recommended when the disease and strength of the patient – are strong. *Virechana* is indicated for *Dosha Nirharana* through *Adhobhaga*. *Triphala*, *Haritaki*, *Katuki*, *Aragvadha*, *Trivrut*, *Danti* and *Dravanti* with *Agnivardaka* and *Anulomana* property can be used.

Niruha Basti

Acharya Charaka has explained *Basti* for *Santarpanjanya Roga Chikitsa*. A number of *Basti kalpana* are mentioned in *Ayurvedic* texts which helps to bring *Samavastha* of *Vayu Dushti* into *Samprapti Vighatana*.

Nasya

Both *Adhistana* of *vyadhi* and *Udana Vata* in *Kantha pradesha* are considered *urdhwa jaturgata vikara*. *Nasya* can be helpful to treat Hypothyroidism.

Tumbi Taila, *Shakhotaka bimbadi taila*, *Vyoshadhya taila* can be used for *Nasya*.

SAMSHAMANA THERAPY:

Shamana is defined as the therapy of not performing *Shodhana* of *Dosha*, not disturbing the equation of balanced *Dosha* and simultaneously bringing equilibrium to imbalanced *Doshas*.

KASHAYA KALPANAS:

1. *Varunadi Kashaya* (A. Hr.)
2. *Punarnavadi Kashaya* (S.S)
3. *Asanadi Gana Kashaya*(A. Hr)
4. *Dashamoola Kashaya*

GUGGULU KALPANA:

1. *Triphala Guggulu* (S.S)
2. *Kanchanara Guggulu* (S.S)
3. *Amrutadi Guggulu* (S.S)

RASA YOGA (SWARNA YOGA)

1. *Laghmalini Vasant* (Yoga Ratnakar)
2. *Shiva Gulika* (Y R)

RASAYANA: *Pippali Rasayana*, *Bhallataka Rasayana*, *Satavari Rasayana*, *Lashuna Rasayana*, *Shilajatu Rasayana*, *Amalaki Rasayana*

PATHYA – APATHYA

Pathya apanya is part and parcel of the successful treatment. *Aahara* and *Vihara* explained to patients that help in curing Hypothyroidism is discussed below,

PATHYA	APATHYA
<p>Shuka Dhanya (Cereal Grain): <i>Purana Shali</i>, <i>Kodrava</i>, <i>Shyamaka</i>, <i>Yava</i>, <i>Priyangu</i>, <i>Laja</i>, <i>Nivara</i>, <i>Koradushaka</i>, <i>Prashatika</i>, <i>Kanguni</i>.</p> <p>Shami Dhanya (Pulses): <i>Mudga</i>, <i>Rajamasha</i>, <i>Kulatha</i>, <i>Chanaka</i>, <i>Masura</i>, <i>Adhaki</i>, <i>Makusthaka</i>.</p> <p>Shaka Varga (Vegetables): <i>Patola</i>, <i>Patrashaka</i>, <i>Shigru</i>, <i>Vruntaka</i>, <i>Katu Tikta Rasatmaka</i> Etc. <i>Vastuka</i>, <i>Trapusha</i>, <i>Vartaka</i>, <i>Ervaruka</i>, <i>Ardraka</i>, <i>Mulaka</i>, <i>Surasa</i>.</p> <p>Phala Varga (Fruits): <i>Kapittha</i>, <i>Jambu</i>, <i>Amalaki</i>, <i>Ela</i>, <i>Bibhitaki</i>, <i>Haritaki Maricha</i>, <i>Pippali</i>, <i>Erand</i>, <i>Karkati</i>, <i>Ankola</i>, <i>Naranga</i>, <i>Bilvaphala</i></p> <p>Drava Varga: <i>Honey</i>, <i>Takra</i>, <i>Ushnajala</i>, <i>Tila</i> and <i>Sarshapa Taila</i>, <i>Asava</i>, <i>Arishta</i>, <i>Surasava</i></p> <p>Mamsa Varga: <i>Rohita Matsya</i></p> <p>PATHYA VIHARA: <i>Shrama Jagarana</i>, <i>Nitya Bhramana</i>, <i>Vyavaya</i></p>	<p><i>Naveen Dhanya (Shali)</i>, <i>Godhuma</i>, <i>Milk Preparations (Dugdha, Dadhi, Sarpi)</i>, <i>Ikshu Vikara</i>, <i>Aanupa</i>, <i>Audaka</i>, <i>Gramya Mamsa Sevana</i> Etc.</p> <p>APATHYA VIHARA: <i>Sheeta Jala Sevana</i>, <i>Divaswapa</i>, <i>Avyavaya</i>, <i>Avyayama</i>, <i>Asana Sukha</i>. The <i>Ahara</i> should be in such a way that, it should be <i>Kapha hara</i> and should not cause <i>Mandagni</i>. Proper physical activity is necessary because to burn the extra calories hence avoiding weight gain as a major symptom.</p>

DISCUSSION

Galaganda and its management have been always challenging among physicians. A study of *ayurvedic* literature reveals references to signs and symptoms and management of this in detail by *Charaka*, *Sushruta*, etc. Hypothyroidism as such is not mentioned in *Ayurveda* but with help of its clinical presentation and *dosha dushya siddhanta* of *Ayurveda*, it can be well understood and managed. In *ayurveda* disorders of the Thyroid gland are described under the title of *Galaganda*. Thyroid hormones are responsible for maintaining Basal Metabolic Rate. Hypothyroidism is a hypometabolic clinical state re-

sulting from inadequate secretion of Thyroid hormones for a prolonged period. In Hypothyroidism, *Agni* is in *Mandavsatha at Koshtha and Dhatu* due to vitiation of *Kapha -Vata pradhan Tridosha*. *Shodhana* therapy plays an important role in the management of Hypothyroidism use of *Vamana*, *Virechana*, *Nashya*, *Basti*, and *Shamana* as per *Dosha Dushya Sammurchhana* yields optional results in Hypothyroidism endocrine condition.

CONCLUSION

Hypothyroidism can be co-related with *Kaphaja Galaganda*, *Kapha Nanatmaja vikara*, *Agni Vikruti*,

Galaganda, Rasapradoshaja vikara, etc explained in Ayurvedic classics. Shedding light on the symptomatology of Hypothyroidism, Ayurvedic fundamentals reveal the predominance of kaphadosha along with vitiation of vata and pitta. This trihumoral vitiation associated with Agni dushti hampers the Dhatwagni vyapar at Rasa, Rakta, Meda, Artavavaha Srotas in due course of time making the patients suffer for the rest of life.

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