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Research Article

Contemporary understanding of Galaganda with thyroid disorders

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ABSTRACT
Galaganda has been mentioned in Ayurvedic texts for decades, but current understanding integrates old classifications with cutting edge molecular insights into thyroid disorders. This review attempts to address this void by examining the etiological mechanisms, Vata exacerbating factors, and clinical indicators of Galaganda, resulting in an extensive overview of this complicated disease.
Methodology: This review employs a comprehensive examination of traditional Ayurvedic texts and modern scientific literature t o uncover the shared pathophysiology and particular aspects of Galaganda in connection to modern thyroid issues.
It emphasises on the convergence of Ayurvedic principles, such as Agnimandya and dysfunctional Vata, Kapha, and Medo dhatu, with contemporary understandings of thyroid disease, such as subclinical hypothyroidism and environmental goitrogenic consequences.
Results: Current study confirms that Galaganda, which resembles a scrotal sac (muska) and is associated with abnormal Vata, Kapha, and Medo dhatu, is closely related to the clinical presentation of hypothyroidism. This alignment includes particular symptoms shared by both diseases, such as fatigue, weight gain, and cold sensitivity.
Conclusion: This review provides a unique integration of traditional Ayurvedic diagnostics with modern endocrinological paradigms, particularly emphasising the role of Agnimandya (impaired digestive fire) as a foundational etiological factor in subclinical hypothyroidism, evidenced by elevated serum TSH levels and diminished T3/T4 concentrations.

Keywords: Galaganda, hypothyroidism, Vata, Kapha, and Medo dhatu, Agnimandya, and goitre.

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INTRODUCTION

The Ayurvedic concept of Galaganda is extensively discussed in ancient treatises such as the Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya, where it is described as a confined swelling in the front of the neck. The word broadly corresponds to what is known in modern medicine as goitre, a symptom commonly associated with a variety of thyroid issues. According to Ayurvedic theory, Galaganda is produced by the vitiation of Kapha dosha and Medas dhatu, which is influenced by environmental, dietary, and metabolic factors, leading in cervical obstruction and accumulation.

Thyroid problems are characterised in modern biological terms based on both morphological changes (such as diffuse or nodular enlargement of the thyroid gland) and functional abnormalities (including hypo- or hyperthyroidism). These disorders are now known to be caused by a complex combination of variables, including iodine shortage, autoimmune processes, genetic predisposition, and endocrine dysregulation. Advances in diagnostic methods, such as hormonal tests (TSH, T3, T4), ultrasonography, radionuclide imaging, and fine-needle aspiration cytology (FNAC), have allowed for more exact characterisation of thyroid illnesses. The proposed perspective allows for a more in-depth understanding of Galaganda by connecting its traditional therapeutic characteristics to the biology behind thyroid dysfunctions. Integrating Ayurvedic concepts with modern endocrinology results in a complete framework for understanding and managing thyroid diseases, which combines preventive and curative therapy approaches.

Definition

The medical condition Galaganda is distinguished by swelling that hangs over the region of gala, similar to muska, and can be large or little in size[1]. **M N 38/1**

Contemporary understanding of Galaganda

Galaganda is characterised by glandular swelling in the front of the neck, which can range from simple goitre to neoplastic tumours, and is caused by thyroid gland enlargement. Laryngeal masses and lymphatic enlargement could be additional problems. However, simple goitre is typically the cause of large pendulous swelling[2].

The pathogenesis of Galaganda disease

The medas (fat) combine with the exacerbated Vata and kapha to cause swelling in the neck and its sides. The symptoms of the doshas appear gradually. The aggravated and vitiated meda dhatu due to excitation and vitiation of Vata and Kapha in the upper body channels located in the neck causes abnormalities in that location, creating excess growth in that region. This illness is referred to as Galaganda[1]. M N 38/2

Contemporary understanding of Causes of Galaganda

Vata Aggravating factors

Vata is agitated by the following causative factors: a weak person fighting with a strong person or engaging in harsh physical activities; performing heavy exercises; engaging in more sexual acts; continuous study; falling from a certain height; running or speed walking; excessive strain/sprain to the body; injury due to fighting; Jumping to a downward deep surface is termed 'lanhgana'; sinking in water (hopping); swimming in water; not sleeping at night; carrying large loads; excessive travel by elephant, horse, chariot, and foot; Increased consumption of pungent, astringent, bitter, rough, light, chilly, and dried veggies 'Vallur' means 'dry meat'; 'varaka' is a type of bilobed cereal 'Uddalaka' is 'aranya kodrava','shyamaka', 'green gram', or 'lentil'; 'Adaki' denotes 'tuvari'; ' Harenu is 'vartula kalaya'; 'kalaya' is 'triputaka'; 'nispavaka' is 'rajashimbi'; 'anashana' is 'less intake of food' and 'fasting'.Adaki means 'tuvari', 'harenu' is 'vartula kalaya', 'kalaya' is 'triputaka', and 'nispavaka' is 'rajashimbi'. 'anashana' signifies 'reduced intake of food' and 'fasting';Harenu is 'vartula kalaya'; 'kalaya' is 'triputaka'; 'nispavaka' is 'rajashimbi'; 'anashana' means 'less intake of food' and 'fasting'; 'visamasana' means 'intake of a large amount of food' or 'less amount of food at irregular times'; Adhyashana refers to eating during indigestion and suppressing urges such as flatus, urine, stool, semen, vomiting, sneezing, eructation, lachrymation, etc. Vayu becomes aggravated during the cold season and exposure to cold; during gloomy weather and strong winds; during the rainy season; and in the early morning, afternoon, and after food digestion. The spicy, bitter, and astringent flavours of food accumulate vata[3].

Kapha Aggravating features

Kapha-aggravating etiological factors include sleeping during the day, sitting inactive or not doing any physical exercises, lassitude, and excessive eating of sweet, sour, salty, chilly, unctuous, heavy, shining food. Excess intake of hayanaka, yavaka, naishadha, itkata, masa, mahamasa, godhuma, tila, pista vikriti, dadhi, dugdha, krishara (a type of yavagu), payasa, and ikshuvikara (sugarcane and its products) are examples of abhishyandi. consumption of meat from marshy and aquatic animals; consumption of lotus, including its fat, stem, and stalk, as well as kasheruka and sringhataka; consumption of a combination of healthy and unhealthy foods; eating during periods of indigestion and other kapha-causing factors; excessive consumption of cold substances, particularly during vasanta, the first few hours of the morning, the evening, and immediately after eating; food that is dominated by sweet, sour, and salty flavours; at the time of Shishira Ritu[3].

Meda Aggravating factors

The meda dhatu is affected by excessive consumption of fatty foods and alcoholic beverages, napping during the day, and a lack of physical activity[4].

The different etiologic mechanisms that can cause a goiter include the following:

Iodine deficiency, Autoimmune thyroiditis - Hashimoto or postpartum thyroiditis, Excess iodine (Wolff-Chaikoff effect) or lithium ingestion, which decrease release of thyroid hormone, Goitrogens, Stimulation of TSH receptors by TSH from pituitary tumors, pituitary thyroid hormone resistance, gonadotropins, and/or thyroid-stimulating immunoglobulins, Inborn errors of metabolism causing defects in biosynthesis of thyroid hormones, Exposure to radiation, Deposition diseases/infiltrative disease, Thyroid hormone resistance (pituitary thyroid hormone resistance with resultant elevated TSH), Subacute thyroiditis (de Quervain thyroiditis), Silent thyroiditis, Riedel thyroiditis, Infectious agents, Acute

suppurative - Bacterial, Chronic - Mycobacteria, fungal, and parasitic, Granulomatous disease, Thyroid malignancy, Low selenium levels: This may be associated with goiter prevalence[5].

***Vataja Galaganda (*inflammatory condition of thyroid)**

A prickly sensation and dark or blackish red veins are the hallmarks of the swelling in the Vataja Galaganda. Over time, the goitre merges with the Meda, grows larger, becomes extremely oily, and is defined by the lack of discomfort.

Rough, slow-growing, and never suppurating, vataja goitre is also characterised by dry throat, dry palate, and tastelessness in the mouth[1]. **M N 38/3-4**

Contemporary understanding of Vataja Galaganda

The following conditions can have clinical characteristics.

- Hyperthyroidism: (Overactive Thyroid): The thyroid makes too much hormone, speeding up body functions and potentially causing anxiety, weight loss, and a rapid heart rate.
- Thyroiditis: Inflammation of the thyroid gland, which can cause initial hormone leakage (thyrotoxicosis) followed by hypothyroidism

Kaphaja Galaganda(thyroid growths)

The symptoms of Kaphaja Galaganda, which arises from an exacerbation of kapha, include swelling over the gala, which is immobile and resembles the colour of the body, itching, a feeling of heaviness, and coldness to the touch. Along with a pleasant taste in the mouth, it also produces a coating-like sensation in the talu and gala[1]. M N 38/4-5

Contemporary understanding of *Kaphaja Galaganda*

The following conditions can have clinical characteristics.

- Hypothyroidism: (Underactive Thyroid): The thyroid doesn't make enough hormone, leading to slow heart rate, fatigue, weight gain, and sensitivity to cold.
- Goiter: An enlargement of the thyroid gland, which can occur with hyper- or hypothyroidism or normal hormone production.

Medaja *Galaganda(lumps/cancer)*

Medaja Galaganda is marked by light-colored, oily, and soft throat swelling. Along with intense itching and no pain, it has a foul odour. It has a short root and is elongated like Alabu. The goitre's size varies in direct proportion to changes in body mass. The patient's face appears to have been anointed with oil, and their throat is continuously making an odd rumbling noise[1]. **M N 38/6-7**

Contemporary understanding of Medaja *Galaganda*

- Thyroid Nodules: Lumps or growths on the thyroid gland.
- Thyroid Cancer: Cancerous growth of cells within the thyroid gland.

Prognosis

A galanganda can be deemed cured if it excludes Pinasa, Parshvashula, Kasa, Jvara, and Chardi. Mriduta in gatra, which is associated to Arocaka, Daurbalya, and Bhinnasvaram, should not be treated if it coexists with Shvasa and lasts for more than a year[1]. (7-8) M N 38/7-8

Contemporary understanding of Prognosis of *Galaganda*

- The prognosis for benign goitres is favourable. Nonetheless, all goitres should be examined and biopsied for potential malignant transformation, which could be indicated by an abrupt change in consistency, size, or pain[6].
- Hyperthyroidism is a side effect of a tiny fraction of multinodular goitres. Surveillance must be ongoing[6].
- The glands of patients with chronic lymphocytic thyroiditis typically atrophic[6]

Conclusion:

In contemporary medical terminology, the traditional notion of Galaganda has a strong connection to the spectrum of thyroid issues, particularly goitre and its associated functional abnormalities. The convergence of Ayurvedic and modern biomedical concepts illustrates the complementarity of ancient clinical insights and contemporary scientific research. From an Ayurvedic perspective, the illness is viewed as a systemic imbalance manifesting locally in the neck, but modern medicine emphasises its biochemical, immunological, and anatomical causes.

The integration of these two concepts improves clinical understanding by bridging the gap between classic descriptive pathology and molecular endocrinology. It promotes an evidence-based, yet holistic, approach that values both diagnostic precision and customised treatment. Continued interdisciplinary research into Galaganda and thyroid diseases may lead to better therapeutic options, increased preventive knowledge, and a more reasonable collaboration of traditional and modern medical systems. Thus, studying Galaganda through the perspective of modern thyroid science illustrates the ongoing significance of classical medical knowledge in light of current scientific developments.

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