

2. LITERARY RESEARCH ON ANCIENT SCRIPTURES ON HYPOTHYROIDISM

2.1 BACKGROUND AND SCOPE

Ancient Indian literature provides deeper insight on *galaganda* which is now called as thyroid disease. *Galaganda* is one of the common ancient diseases seen in general population. This chapter gives deeper insight on the ancient literature of different civilizations on thyroid diseases. Well known *Āyurvedic* physicians of ancient India given detailed information on different symptoms and signs of *galaganda* and suggested many powerful *Āyurvedic* medications to cure *galaganda* symptoms. In the beginning of the chapter the ancient Greek, Chinese, Indian and Egyptian literature references on thyroid gland, its diseases and its medications are discussed. Different *Vedic* sources on thyroid gland and diseases are discussed in detail. Because of its broad occurrence, goiter is a condition that attracts a lot of attention from the general public. Goiter the most common medical problems exposed in earliest paintings. In ancient texts, many references are there to goiter dating back to 2700 BC. Its occurrence is more popular, but possible preventive measures were unknown. Tshui Chinthis, a Chinese physician, distinguished between solid (malignant) neck tumours that were incurable (Niazi et al., 2011) and moveable (benign) tumours that were curable in 85 A.D. Due to a lack of information and poor nutritional practices, iodine deficiency was common at the time. Physicians, healers, and philosophers discovered this in the nineteenth century when scientifically describing the thyroid gland and its diseases (Langer, 1960). Medical literature from ancient *Hindu* accounts contains references to goiter. There was evidence in *Ātharva Veda* about goiter from the period around 2000 B.C. Neck tumors were known as *galaganda*, and the name was suggested by *Hindu* physicians *Susr̥ta* and *Caraka* (about 500 B.C.). Though Greenwald holds a different opinion, these tumors are goiters, but the term *galaganda* is used in India to goiter (Langer, 1960). Thyroid disease has been studied in India since 1400 BC. They are similar to those mentioned in modern medicine. Thyroid disease signs are graded as *kaphaja* (hypothyroidism), there is no exact word hypothyroidism in the ancient texts but by considering the symptoms the diseases are classified. *Vātaja* (hyperthyroidism),

and *medaja* (thyroidal cyst) in *Āyurvedic* medicine (Leoutsakos, 2004). Hypothyroidism was demonstrated in *Āyurveda* by *Caraka* mentioned that it is possible to avoid and reduce the swelling associated with thyroid disease by consuming the right foods. He advised people to avoid consuming sour foods because they can aggravate thyroid problems (Karla, 2011). Hippocrates and Plato the popular Greek experts was the first to mention thyroid gland and in combination with the salivary and thymus glands (Langer, 1960). Chinese physicians used burned sponges and seaweeds to cure goiter as early as 1600 BC (Haeger, 1988). In 1656, anatomist Thomas Wharton revealed the exact physical structure of the thyroid gland and the body's other glands. The basic function of the gland, he said, is secretion (Rolleston, 1936). Iodine deficiency is caused by a lack of iodine in the body. In the beginning, goiter was very common. Goiter was traditionally treated with seaweed and shells of aquatic animals (Medvei, 1982).

*सिरसि इन्द्रियानि इन्द्रिय रनवहनि स्रोतम्सि
सुर्यामिव गभस्तयह सम्प्रितानि
sirasi indriyani indriya ranavahani srotamsi
suryamiva gabhastayaha samsritani* (Tamagond et al., 2021).

The sun rays directly passes towards earth without any interruptions in the same way the ductless glands secretes the hormones from the bloodstream without any mediating channels. The thyroid gland is a ductless gland that secretes TRH, which causes the pituitary gland to secrete TSH, which then causes the thyroid gland to release T4 and T3 (Tamagond et al., 2021).

*सन्क्सेपतह ख्रियाग निदन ऐवर्जनम्
sanksepataha khriyaoga nidana aivarjanam* (Tamagond et al., 2021)

According to Acharya *Susrta* it is very important to avoid the causative factors that causes the diseases. This is the first and important treatment measure to reduce the disease and its symptoms (Tamagond et al., 2021).

*अहर सम्भवम् अस्तु रोगश्च अहर सम्भवह
ahara sambhavam astu rogasca ahara sambhavaha* (Tamagond et al., 2021).

According to *Āyurveda* food is the most important reason for causing health issues. Food consumptions should be proper and particular to yield health and happiness.

विकर प्रकृति अधिस्थान समुथन

vikara prakruti adhisthana samuthana (Tamagond et al., 2021).

the endocrine glands secrete the hormones from the bloodstream which is also explained in *Āyurveda from Caraka siddhi sthana* in chapter 9 and 4th shloka (Tamagond et al., 2021).

प्राणायामेन युक्तेन सर्व-रोग-क्षयो भवेत् ।

अयुक्ताभ्यास-योगेन सर्व-रोग-समुद्रमः ॥ ह यो प्र १६/३ ॥

prāṇāyāmena yuktena sarva-roga-kṣayo bhavet |

ayuktābhyāsa-yogena sarva-roga-samudgamah ||HYP II. 16||

Practicing *prāṇāyāma* eliminates all the diseases from the body (Tamagond et al., 2021).

कपाल-शोधिनी चैव दिव्य-दृष्टि-प्रदायिनी ।

जत्रूर्ध्व-जात-रोगौघं नेतिराशु निहन्ति च ॥ ह यो प्र ३० ॥

kapāla-śodhinī caiva divya-drṣṭi-pradāyinī |

jatrūrdhva-jāta-rogaugham netirāśu nihanti ca ||HYP II 30||

The Neti is the cleanser of the mind and support of marvellous sight. It quickly abolishes all the illnesses of the cervical and scapular regions.

Performing *sūryabhedana* is one of the excellent practices for cleansing and destroying the disorders especially disorders of *vāta* and also removes the worms, so it is necessary to perform *sūryabhedana* again and again (Digambarji, 2002).

अथ भ्रामरी

वेगाद्धोषं पूरकं भृङ्ग-नादं

भृङ्गी-नादं रेचकं मन्द-मन्दम् ।

योगीन्द्राणमेवमभ्यास-योगाच्च

चित्ते जाता काचिदानन्द-लीला ॥ ह यो प्र ६८ ॥

atha bhrāmarī

vegādghoṣam pūrakam bhr̥ṅga-nādam

bhr̥ṅgī-nādam recakam manda-mandam |

yogīndrāṇamevamabhyāsa-yogāc

citte jāta kācidānanda-līlā ||HYP 68||

Filling air and making noise forcefully and expelling slowly causes ecstasy in the mind (Digambarji, 2002).

2.2 SUMMARY

The exact word hypothyroidism is unspecified in ancient texts. However, ancient Greek, Egyptian, Chinese, and Indian literature, contain many sources about thyroid gland diseases and their symptoms. Goiter is a common disease in the population due to its occurrence. According to the Indian *Āyurvedic* medicine literature dated back to 1400 BC, goiters are mentioned as *galaganda*; the *galaganda*, its symptoms, and medicines are described in detail in the texts. All those medicines described in ancient *Āyurvedic* literature correlate with modern medicines. In *Āyurveda*, hypothyroidism is perfectly described and explained by ancient physician *Caraka*. According to *Caraka*, hypothyroidism may be prevented by consuming milk, rice, green grams, cucumber, barley, and sugarcane juice. Ancient physician *Caraka* also suggested that eating sour foods aggravates thyroid diseases, *khāncanara* (*Bauhinia Variegata*) and bladder wrack (*Fucus Vesiculosus*) are suitable for thyroid problems, *guggulu* or *Commiphora Mukul* increases the basal metabolic rate in patients with hypothyroidism. *Punarnava* or *Boerhaavediffusa* Linn reduces swelling in thyroid patients (Haeger, 1988; Karla, 2011; Langer, 1960; Leoutsakos, 2004).

2.3 AIM AND OBJECTIVES

The aim of the review of ancient literature is to analyse the ancient texts and scriptures to know the details related to the thyroid gland and its related diseases. This study reveals the details on ancient medication and treatment processes used to treat the thyroid diseases or *galaganda*.

2.4 MATERIALS AND METHODS

All the ancient text related to hypothyroidism such as *vedās*, *Patañjali yoga sūtra*, *haṭa yoga pradipika*, ancient Greek, Chinese, Egyptian and Indian literatures were referred to take data for the study. The Chinese physician Tshui writings, the *Hindu* physicians *Susr̥ta* and

Caraka Āyurvedic (about 500 B.C.) writings also referred to collect the information for the study.

2.4.1. Vedic Sources and Classical Yogic Texts

Āyurveda is the ancient medication system of India. Hypothyroidism disorder is not directly stated in *Āyurveda*, the ancient medicinal process. There is no specific information about hypothyroidism in *Āyurveda*; the symptoms nearly associated with thyroid disorder were defined. According to *Āyurveda*, thyroid related symptoms are associated with *galaganda* also called as enlarged thyroid gland (Mishra, 2004). The problems associated with *galaganda* and the medication processes are well described in classical *Āyurvedic* texts. Thyroid gland enlargement, also called neck swelling, was primarily mentioned in the *Atharva Veda*; *Caraka*, father of ancient medicine mentioned the thyroid disorder in 20 *sleśma vikaras* (Shukla, 2006). *Susrta*, father of ancient Indian surgery, mentioned *śarīra sthāna* or seven layers of skin, and the sixth layer is *Rohini*, is the place of *galaganda* (Shastri AD, 2007). According to *nidana sthāna* the *galaganda* was described as two encapsulated swelling. It is either smaller or more significant in the neck's anterior angle and hung like the scrotum (Shastri AD, 2007), *Āyurvedic* literature specified thyroid disorder as one of the *rasabaha srotas* (Lymphatic Channel). According to *Āyurveda* a healthy person should have a balanced state of three *doṣās*, namely *vāta* (air), *pitta* (fire), and *kaphā* (mucus). The imbalance between *vāta*, *kaphā*, and *madā* (fat) is important reason for thyroid gland enlargement, also called *galaganda* in *Āyurveda*. According to *Caraka*, hypothyroidism disorder was described as *pitta kapha* disorder. An imbalance between all three *doṣās* results in hormonal imbalance, leading to thyroid gland enlargement (Sengupta, 2012). One of the reasons for this disorder is loss of appetite or poor immunity (Panthi, 2015). The imbalance between body, mind, and soul is one of the major causes of diseases. Therefore, conferring to the *Caraka Samhitā*, intake of hygienic food in a proper quantity is very important.

Moreover, the food should be digested completely. If the consumed hygienic food is not digested correctly, it may cause fear, sorrow, anger, grief, oversleep, and extreme vigil,

(Sharma, 1992) and in *Suśrta Samhitā* (A Classical *Āyurveda* Textbook of Surgery) also prescribed the same. In *Āyurveda*, the thyroid disorder is correlated to the *galaganda* and related conditions. These two diseases are related to the thyroid glands' nodular out growth, which can be compared to goitre and other symptoms. The thyroid disorder or dysfunction is not characterized by swelling in the thyroid glands but swelling with the palpable condition. According to the comparison of etiology and symptomatology, there is a similarity between thyroid dysfunction and should and *kaśaya* condition. The similarity is mentioned in *āstou ninditīya adhyaya* of the *Caraka Samhitā* (Rajkumar et al., 2017) and not mentioned in *Āyurvedic* texts, and those diseases are called *ānukta vicāra* (Tripathi, 2019; Jadhav, 2019). Subclinical hypothyroidism is also one among them, and there is no source for the disorder. However, the treatment for hypothyroidism was perfectly described in *Āyurveda*. It was described that *āstanga ḥṛdaya* means if the disease name is unknown, it should be treated by examining the *prakṛti bheda hetu*, and *adhistaḥna*. Today with the help of advanced science technologies, diseases are found out quickly, and diagnoses and treatments are made to the subjects. However, still, there are no easy medicinal remedies to treat lifestyle diseases. The medicines still fail to relieve the diseases completely, but *Āyurveda* has direct and indirect solutions. Though any disease condition is not described in *Āyurveda*, similar to hypothyroidism, several references are scattered in various texts, eight types of *ṇandita uruśas* and *āvarana* can be described based on various hormonal disorders (Tripathi, 2019; Jadhav, 2019). Some of the modern diseases names not mentioned in *Āyurveda* can be successfully treated due to the profound insight of the *Āyurvedic* principles. According to *Ācārya Caraka*, it is not necessary that every disease manifestation must have a particular name, recognizing the possible pathogenesis of the disease based on the involved factors like *dośa* and *duśya* necessary. After knowing that, it can be successfully treated (Monika et al., 2017; Shastri Kashinath, 2004). *Atharva Veda* is the first to mention neck swelling in *Āpaci Charaka* under 20 *śleśma vikaras* and eight *sthana* mentioned skin is formed as seven layers, and the sixth layer also called Rohini, where the *galaganda* seated (Shastri, 2010; Sowmyashree, 2018). In the *ṇidana sthāna*, *galaganda* is described as two encapsulated swellings. Well, *Caraka* mentioned that the *galaganda* is the

solitary swelling. Some of the main reasons for the solitary swelling are climatic conditions, water infections, dietary changes, and reasons. According to the *Suśrta* the *hīmvatprabhava* rivers might be the reason for *galaganda* (Kamat & Hiremath, 2012; Shastri, 2010), and stated that *galaganda* and sleep are the two common disorders or conditions in the eastern part of the country. People who include fish often in their diet are likely to develop *galaganda*. According to *ḥarita śamhitakara duśtambu* or contaminated water and *krimi dośa* or viral infection are the main reasons for *galaganda* (Dodke & Pandey, 2020; Tripathi, 2005). *Kaśapya śamhitakara* stated that people staying in any part of the country where the temperature is cold, moisture with densely grown trees, heavy rainfall, and water stagnation might be prone to *galaganda* (Vridh Jivaka, 2012). According to the sources mentioned above, we can associate *galaganda* with goitre, where we cannot conclude that thyroid functions are compromised. Well, hypothyroidism is not just a disease. It may be associated with many symptoms related to the many bodily systems. Therefore, we can conclude that it is inaccurate to relate hypothyroidism and *galaganda*.

2.4.2. Summary

The exact word hypothyroidism is not mentioned anywhere in the ancient texts. However, in ancient Greek, Egyptian, Chinese, and Indian literature, there are many sources about the medicines to thyroid gland diseases and its symptoms. Thyroid (goiter) disease has been studied in India since 1400 BC. They are similar to those mentioned in modern medicine. Thyroid disease signs are graded as *vātaja* (hyperthyroidism), *kaphaja* (hypothyroidism), and *medaja* (thyroidal cyst) in *Āyurvedic* medicine.

The current chapter covered critical view on ancient Indian literature on hypothyroidism and its related symptoms. The upcoming chapter provides critical view of scientific literature on hypothyroidism.
