

A Comprehensive review of Hypothyroidism in relation to *Asbab-o-Alamat*

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Abstract

Hypothyroidism is characterised by reduced thyroid hormone production cause by thyroid gland defect clinically manifested as weight gain, hair thinning, cold intolerance, fatigue, dry skin etc. Globally the prevalence is 4-5% more commonly woman. Diagnosed by clinical history, and thyroid profile FT3, FT4, TSH, and TPO etc. But in Unani Medicine it is diagnosed by *Alamat* associated with *Sue-i-mizaj barid ratab balghami*. The clinical manifestations of *Sue-i-Mizaj Barid ratab maddi* are nearly similar to that Hypothyroidism (*Qillat-i-Darqiyyat*) like excessive *Sabat* (sleep), *Tahabbuj* (oedema), *Ikhtilatal Dhahn* (mental sluggishness), *Khushk wa Khurdarī Jild* (dry and coarse skin) etc. In this review article, etiology, pathogenesis and clinical features of hypothyroidism are discussed in the light of Unani literatures. In this paper, an effort has been made to review all aspects of hypothyroidism in relation to *Asbab-o-Alamat* to establish its relationship with management of disease.

Keywords: Hypothyroidism; Endocrine disease, Unani medicine, Thyroid gland, Thyroid Stimulating hormone

Introduction

Hypothyroidism (*Qillat-i-Darqiyyat*) is the common endocrine disease, caused by a thyroid gland defect leading to reduced thyroid hormone production⁽¹⁾. It may happen that you are suffering from hypothyroidism without knowing, believing them to be a normal part of life. Since the lockdown in India, the prevalence rate of hypothyroidism increases enormously. According to ministry of health and family welfare the prevalence of self-reported goitre or thyroid disorder in National Family Health Survey IV [NFHS IV (2015-2016)] was 2.2%, while it was 2.9% in NFHS-V (2019-2021). Among the age 15-49 years, the thyroid disorder was nearly 2% in females and less than 1% in males. It has reported the prevalence among the age (15-19 years) : 0.7%, (20-34 years): 1.8%, (35-49 years): 3.4%. As per the NFHS IV (2015-2016), amongst 6,99,686 women in their reproductive age groups (15-49 years) with the highest quintile of wealth index were likely to have three to four-fold higher risk of having thyroid disorders and worldwide it is 4-5%^(2,3). The primary cause of hypothyroidism includes chronic autoimmune thyroiditis (Hashimoto's Disease). Another common cause is the treatment of Graves's disease, overweight, sedentary lifestyle, other autoimmune disorders, such as type 1 diabetes, rheumatoid arthritis, pernicious anaemia, or having a close relative, such as a parent or grandparent, with an autoimmune disease, previous thyroid surgery, radioactive iodine treatment, or taking certain medications, such as lithium, amiodarone, pembrolizumab, nivolumab etc^(4,5). When your thyroid hormone levels are too low, your body's cells cannot get enough thyroid hormone.

This causes your body's processes to start slowing down. For example, the body makes less heat and less energy, causing organs like the brain and bowels to move more slowly. As the body slows, you may notice that you feel colder, you tire more easily, your skin is getting drier, you are becoming forgetful, depressed, and constipated⁽⁵⁾. Diagnosis is based on clinical history, laboratory investigations (FT3, FT4, TSH, and TPO), imaging techniques, procedures, and histological findings but a confirmative diagnosis is based on laboratory parameters⁽⁶⁾. If hypothyroidism is left untreated, this will lead to a heap of complications and worsen the life.

In Unani system of medicine there is no any direct reference of hypothyroidism as separate entity, it can be correlated with different entities but can be explained as the sign and symptoms of hypothyroidism resemble to the clinical manifestation associated with *Su-i-Mizaj Barid Maddi* (derangement of temperament in cold constitution), such as *Imtila*, *Kasrat-e-Luabe-e-Dahan*, *Aaya*, *Zoaf-e-Ishteha*, *Kasrat-e-Naum*, and *Baroodat-e-Jildiya*⁽⁷⁾. The term used for hypothyroidism is *Qillat-i-Darqiyyat*⁽⁸⁾. Whereas *Su-i-Mizaj Barid balghami* (abnormal cold and phlegm temperament) explains the aetiology of hypothyroidism in Unani medicine. In this article the discussion will be made on the *Asbab-o-Alamat* of hypothyroidism in context of Unani system of medicine.

Material and methods

The Unani classical and authentic books were surveyed like *Firdaus-ul-Hikmat* (Wisdom of Paradise), *Al-Qanoon Fit Tib* (Canon of Medicine), *Zakheera Khwarazm Shahi* (Treasure

of Khwarazm Shah), Kitabul Mukhtarat Fi Tib, Kulliyat-e-Nafisi, Iksir-i-A'zam, Kulliyat-i-Qanoon, Kitab-Al-Kulliyat etc were referred. Further, browsing of PubMed, Google Scholar, Research Gate, MoHFW, Springer, Science Direct and other websites was carried to collect the recent advancements related to the topic using the key words Hypothyroidism, su-i-mizaj, asbab sittah zarooriya, etc.

Etiopathogenesis of hypothyroidism in Unani medicine

In Unani system of medicine, the fundamental framework is based on scientific principles including Hippocratic theory of four *Akhlat* (Humours) – *Dam* (Blood), *Balgham* (Phlegm), *Safra* (Yellow Bile) and *Sawda* (Black Bile). According to classical Unani literature, the temperament(normal) of the thyroid gland is more inclined to hot as it receives more blood supply, whereas in Hypothyroidism the temperament of the thyroid gland changes from hot to abnormal cold. Some Unani scholars consider hypothyroidism as *Barid-Balghami*(cold-Phlegmatic) disease^(9,10). A type of temperament caused by the predominance of Balgham (phlegm) in the body. It is cold and moist. The individuals with this type of temperament have fatty body, excessive sleep and whitish colour of skin etc⁽⁸⁾. **Raban tabri** stated in his book the *Bukhara* (vapours) of *ghiza* (food) along with *baroodat wa ratoobat* move towards brain resulting in weakened nerve and loaded eyes causing excessive sleep⁽¹¹⁾. **Ibn Hubal Baghdadi** (1122-1213) in his book “kitab al mukhtarat fi'l tib “and **Hakeem Mohammad Azam khan** (1814-1902) in *Ikseer -e-Azam* have described that *sabat* (excessive sleep) as symptom of dominance of abnormal *Balgham*^(12,13). **Ibn-e-Nafees** has identified various causes for this disease, including *Zoaf-e-Dimagh* (debility of brain),

Zoaf-e-Kabid (debility of liver), *Zoaf-e-Tihal* (splenic debility), *Zoaf-e-gurdah* (renal debility), *Su'ul Qinyah* (anaemia) *Qillat-e-Harkat* (sedentary life), *Ghair Tabayi Istefragh* (excessive evacuation), *Qillat-e-Hararat* (hypothermia) and excessive use of *Barid wa Martoob Ghiza* (cold and moist nutrition)⁽¹⁴⁾. According to **Buqrat** excessive menstruation or little menstruation both are harmful, excessive menstruation causes *barid mizaj* (cold temperament) of liver⁽¹²⁾.

Causes of su'-i-mizaj Barid-Balgham (Asbab)

- *Ghair-mu 'tadil Khilt-i-Balgham* (Alter phlegm), *Mubarridat* (refrigerants), *Kathrat-i-Ghidha* (excessive food), *Sakoon-i-Mufarita* (excessive rest), *Harkat-i-Mufarita* (excessive movements), *Masamat ka Kathif hona* (blocked sweat pores), *Madda-i-Mubarrida* (cold material, refrigerant material), *Kathrat-i-Istifragh* (Excessive evacuation) *Sudda* (Obstruction) *Kathrat Al-Fikr* (Excessive worry), Excessive sympathetic stimulation, *San 'ati-i-Barid* (cold occupation)^(15,16).

Asbab-i-Ratubat (Cause of Fluidity)

- *Sakoon-wa-Rahat*(repose), *Kathrat and Murattib Ghidha* (excess and moist food), *Hammam* (bath), excessive *Nawm* (sleep), *Ihtibas* (retention) and *Istifragh* (evacuation)^(16,17).

Diet – Razi stated in the book *kitabul murshid* that excess of *barid and ratab ghiza* (aghziya barida and aghziya murattiba) will produce dominance of *khilte-balgham*⁽¹⁸⁾. whereas **Ismail Jurjani** in his book mentioned that taking aghziya murattiba (tar ghiza) eg; fresh fish and curd represents the dominance of balgham⁽¹⁹⁾. Excess or deficiency in quantity of food results in baroodat as its excess causes Tukhma or suddah^(16,20).

Table: Diet promoting and preventing hypothyroidism

Diet promoting hypothyroidism		Diet preventing hypothyroidism	
Terms	Description	Terms	Description
Aghziya Barida/Aghziya Mubarrida	The food of cold temperament having ability to produce the humours which induce coldness in the body e.g., Khas (Andropogon maracatu's Retz.), Kasni (Cichorium intybus Linn.), etc	Aghziya Harra	The foods of hot temperament having ability to produce the humours which induce heat in the body e.g., onion, garlic, etc.
Aghziya Lazija	The foods which increase the viscosity of humours e.g., Khurfa, Till, etc.	Aghziya Hirrifa	Spicy (pungent) foods that may produce heat in the body e.g. pepper.
Aghziya Muwallid-e-Balgham	The foods will produce excessive quantity of phlegm in the body that promote coldness e.g., sheep milk, beet root, cucumber, etc	Aghziya Muwallid-e-Dam	The foods will produce an excessive quantity of sanguine in the body e.g., grapes, pomegranate, egg yolk, fried meat, boiled meat, milk, dairy products, gram, etc.
Aghziya Radiya	Foods that produce bad quality of humours will result in su'-i-mizaj	Aghziya Saliha	The foods which produce good quality of humours.
Aghziya Murattiba / Aghziya Rataba	Foods that produce wet humours which give rise to wetness in the body.eg milk, Kadu etc.	Aghziya Yabisa	The foods which produce dryness in the body e.g., meat, lentil, etc.

Asbab-e-Sitta Zarooriya (six pre-requisites)- are the six essential factors of life. Imbalance in these factors causes *Su'-i-mizaj* (alteration in Mizaj) and these are the following.

Hawa 'al-Muhit. (Atmospheric air)- works as *Ta'adeel-e-Ruh* and *Tankiya-e-Ruh*. Change in character of atmospheric air produce changes to human body temperament. Polluted air induces putrefaction to humours, *Hawa 'Al-barid* (Cool wind) produces *baroodat* in body.⁽²¹⁾

Makul Wa'l - Mashrub (Food and Drinks)- The word Makul stands for foods and Mashroob for drinks. Foods and drinks act upon the human body in three ways: by their quality alone, or simply by their element, or by their substance as a whole. As regards of quantity, an excess produces indigestion, obstruction and then putrefaction of humours. If the quantity falls short, it causes emaciation. Excess of food is always cooling in effect and produces *baroodat*⁽²²⁾.

Harkat Wa'l Sukun al- Badaniyah (Bodily Movement and Repose)- Excess of both, Harkat(motion) and sukun(rest) causes coldness of the body because excessive motion leads in the decrease of the innate fluids and excess of rest increases the body fluid which decreases the innate energy. Motion is essential for the activation of Hararat-e-ghariziya (innate energy). Motion with high frequency, intensity and short duration, increases heat while low frequency, intensity with long duration, increases metabolism⁽¹⁶⁾. **Ibn-e-Rushd** emphasized on, if there is an excess of comfort and less physical activity, it results in the change of mizaj to coldness and moistness(*barid-ratab*)⁽¹⁵⁾.

Harkat Wa'l Sukun al - Nafsaniyah (Psychic Movement and Repose)- Body and mind have impact on each other as *nafsiyati Awamil* (psychological factors). Psychic conditions such as extreme joy and anger causes movement of *Rooh* outwards, dilated cutaneous blood vessels and increases heat giving reddish hue to the skin. While repose causes inward movement of *Rooh*, increases coldness like stress and depression. So, excessive movement or repose causes hot and cold pathologies⁽²¹⁾.

Naum wa yaqza (Sleep and Wakefulness)- Excessive sleep increases coldness and wetness in the body as during sleep, Hararat-e-Ghariziyah (Innate heat) of the body is preserved while Awakening increases hotness, dryness and Hararat-e-Ghariziyah as it is similar to movements. **Majoosi** said that *tabi'at* is benefitted in two ways by sleep. One is mental and physical rest and second is the digestion and concoction of *Akhlat* which causes innate heat to enter the body. **Zakariya Razi** delineates that 8hrs of sleep is very essential for health⁽²³⁾.

Istifragh wa'l Ihtibas (Retention and Evacuation)- Excess of *istifragh* makes the body feeble and changes the

temperament towards coldness & dryness, sometime it produces obstruction and ultimately innate energy becomes weak. It is necessary to eliminate excessive humours and waste products from body at regular interval. Its retention causes *su'-i-mizaj*, leads to hypothyroidism.

Asbab-e-Ghayr Zarooriya (lifestyle and environmental factors)-The Unani System of Medicine gives great importance to both appropriate movement and rest for maintaining health and for curing disease. *Qillat-i-Riyadat* (Lack of exercise), *kasrat-e-Riyadat* (more than enough exercise) causes *su'-i-mizaj barid* as *harat ghariziya* get *tehleel*. *Ibn-e-Sina* said that “exercise is the cause of good health if it is done at the right time and in moderate quantity”. *Hammam* with long duration ultimately leads to *baroodat* in body⁽¹⁶⁾. Overconsumption of junk food (*Aghziya raddi-ul-kaimoos*) and sedentary lifestyle leads to formation of abnormal humours (*ghair tabayi akhlat*)⁽²⁴⁾.

Alamat (Sign and symptoms)

In Modern Medicine, Hypothyroidism manifest as fatigue, sleepiness, feeling cold, Drier skin, hair thinning, loss of appetite with mild weight gain, difficulty losing weight (hypothyroidism doesn't cause obesity), snoring, Muscle cramps and joint aches, paraesthesia, constipation, Puffiness around the face (especially the eyes), because of fluid build-up, Heavier and/or more frequent menstrual periods, depression, hoarseness of voice etc⁽²⁵⁾. The basis for laboratory diagnosis is by a state of decreased circulating thyroid hormone associated with low FT4/TT4 (free and total thyroxine) and elevated TSH (thyroid stimulating hormone)⁽²⁶⁾. In Unani medicine the clinical features of hypothyroidism manifest as *Su'-I-Mizaj Barid Balghami* (deranged phlegmatic temperament). *Ali ibn abbas majoosi*, *Ibn Hubal Baghdadi*, *Hakeem Mohammad Azam Khan*, *Ismail Jurjani* have mentioned sign and symptoms hypothyroidism in their books *kamil-al-sanat*, “*kitab al mukhtarat fi'l tib*, *Ikseer -e-Azam*, *dhakhira Khwarazm shahi*, respectively as symptom of dominance of abnormal *Balgham* and *Buroodat*. It include excessive sleep (*Sabat*), oedema (*Tahabbuj*), mental sluggishness (*Ikhtilal al Dhahn*), *Khushk wa Khurdari Jild* (dry and coarse skin), *Shu-ub* (skin pallor), *Takan wa Kasalmandi* (lethargy and somnolence), *Nabq Ba'fi wa Mutafawit* (low volume pulse), *Kund Zahni* (diminished intellectual functions), *Du'fal-Ishtihā' wa hadam* (decreased appetite and digestion), *Jism-Dheelapan* (looseness of body) and *Barid Jild* (cold skin) etc⁽²⁷⁾.

Conclusion

Qillat-i-Darqiyyat is the common endocrine disease, defect in thyroid gland which reduces thyroid hormone, more common in females than males. In Unani medicine the etiopathogenesis of the disease is due to the *Su'-i-mizaj Barid-Balgham* (excess cold and abnormal phlegmatic

temperament), exposure of irregular *Asbab-e-Sitta Zarooriya* (six pre-requisites) and *Asbab-e-sitta-Ghayr Zarooriya* (sedentary lifestyle and environmental factors) that is evident and concluded from the ancient text. On the basis of Unani etiopathology and sign and symptoms can be concluded that the defect lies in su'-i-mizaj barid maddi, ghiza, asbab-e-sittah zarooriya and sedentary lifestyle. The disease can be cured by treating and managing its asbab and asbab-e-sittah zarooriya with the help of Unani system of medicine.

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