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Etiopathogenesis of *Zaghtuddam Qawi Ibtidai* (Primary Hypertension) in Unani Literature: A Comprehensive Review



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ABSTRACT

Hypertension (HTN) is defined as the presence of blood pressure (BP) elevation to a level that places patients at increased risk for target organ damage. Hypertension is one of the leading causes of the global burden of disease. Elevated blood pressure affects more than one billion individuals and causes an estimated 9.4 million deaths per year. The majority of patients (>95%) have Primary hypertension (also called “essential” or “idiopathic” hypertension), in which an underlying cause for hypertension is not found. Only a small percentage of patients have secondary hypertension, in which a recognizable etiology is identified. Although per se hypertension as a disease entity is not mentioned in classical Unani literature, most Unani physicians have extensively discussed its clinical manifestations and complications under various headings but not in line with the modern term, viz Hypertension. The main determinants of hypertension described in Unani literature are: *Imtilā* (Congestion) and *Salabat Sharayin* (Arterial Stiffness). *Imtilā* exhibits manifestations such as headache, palpitation, breathlessness, vertigo, epistaxis, etc., simulating hypertension. According to them, *Imtilā* can be classified into “*Imtilā bi Hasbil aw'iyā* (repletion concerning vessels) and “*Imtilā bi Hasbil Quwa* (repletion concerning vitality).” Another determinant of hypertension in Unani classical literature is *Salabat Sharayin* (Arterial Stiffness), which ultimately leads to *tanooa wa tamaddud* (spasm) in the blood vessels that manifest clinically with the same symptoms and complications as that of hypertension.

INTRODUCTION

Hypertension is the level of Blood Pressure (BP) at which the risk of cardiovascular complications and benefits of treatment outweigh the treatment costs and potential side effects of therapy.[1]As per the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) as well as JNC 8 recommendation criteria, normal blood pressure is in the range of systolic blood pressure of 120 mm Hg and diastolic of ≤ 80 mm Hg. The systolic blood pressure between 120-139 mmHg is said to be the stage of pre-hypertension. Hypertension is a very common, readily identifiable, and reversible vital risk factor for cardiovascular diseases (CVDs). It is estimated that it increases the risk at least two-fold for CVDs, including coronary artery disease (CAD), congestive heart failure (CHF), Stroke(ischaemic and hemorrhagic), renal failure, and peripheral arterial disease.[2] An estimated 1.28 billion adults aged 30-79 years worldwide have hypertension. Hence it is a significant cause of premature death world wide.[3] The burden of hypertension is progressively rising with India contributing a major part of it. The global burden of disease study reported that systolic blood pressure is associated with the highest burden among all risk factors, accounting for 10.2 million deaths and 208 million disability-adjusted life years.[4].In the United States, an estimated approx 80 million adults, or 32.6%, have hypertension [5,6]. High blood pressure (BP) is ranked as the third most important risk factor for attributable burden of disease in South Asia (2010).[7]The average prevalence of hypertension in India is 25% in urban and 10% in rural inhabitants. There were 120 million estimated cases of hypertension in India in 2000, and by 2025, that number is expected to rise to 200 million, with an equal distribution of men and women.[8]

Primary or Essential Hypertension

Depending on methods of patient ascertainment. 80- 95% of hypertensive patients are diagnosed as having primary, or "essential," hypertension.[9,10,11]-In these cases of hypertension, no single and reversible cause can be detected, and therefore the terms *essential* and *primary* hypertension have been used.[12,13] The term essential was introduced because it was thought that a higher-than-usual level of BP was needed to maintain the perfusion of vital organs.[14]

Review of Literature

Hypertension has a long and illustrious history. The quality of an individual's pulse was a window into the status of the circulatory system in ancient Chinese, Greek-Arabic, and Indian Ayurvedic medicine[15]. In Tibb-e-Unani, hypertension is not reported, but in Unani physicians' classical treatises, the concept of the hard pulse (*Nabz sulb*) is mentioned. *Sawda-i-muhtariq* (burnt-out black bile) causes *Yaboosat* (dryness) in the vessels, making the pulse stiff, according to *Ali Ibn Abbas Majoosi* (930-994 AD).[16] *Ibne Sina* (980-1037 AD) discovered that *Yaboosat* (dryness) is a significant cause of the hardness of the pulse. This "*Nabz sulb*" could probably be classified as hypertension in today's terms. Physicians in ancient Egypt identified a link between pulse quality and the occurrence of heart and brain tissues, including apoplexy and paralysis in the Ebers Papyrus (1550 BC) and subsequently in India in the *Charaka Samhita* (about 150 BC).[17] Antonio Scarpa was the first to describe atherosclerosis in arteries in 1832.[18]. In Germany, the generalized arteriolar disease was called "hypertensive essential," meaning primary hypertension. However, it was translated to signify essential hypertension in foreign countries. The latter asserted that the term essential implied that an increase in blood pressure was a cardiovascular system compensatory response to prevent tissue ischemia by restricted arterioles.[19] Clifford Allbutt (1896) and Henri Huchard (1893) showed that high blood pressure might precede arteriosclerosis or occur without overt renal disease. In 1911, the term "essential hypertension" was coined by Mahomed and Otto Frank.[20]

Although per se hypertension as a disease entity is not mentioned in classical Unani literature, most Unani physicians have extensively discussed its clinical manifestations and complications under various headings but not in line with the modern term, viz Hypertension.[21,22,23,24]

Later on, the term *Zaghtuddam Qavi* and *Fisharul-dam* was used by Unani scholars contemporary to the Indian period to entitle hypertension. [25,26] The main determinants of hypertension described in Unani literature are - *Imtilā* (Congestion) and *Salabat Sharayin* (Arterial stiffness).[27]

Imtilā means gathering and fullness of body with *madda* (matter).

Technically, *Imtilā* means accumulation of normal or abnormal fluids in the body. [28]

Signs of repletion, in general, are heaviness of organs, sluggish movements, redness of color of the body, inflation of the veins, distension of the skin, the fullness of the pulse, colored and dense urine, loss of appetite, weak eyesight, dreams indicating heaviness. [29] Headache, associated with lethargy and/or tension, is indicative of *Imtilā*. [22] Prominent Unani scholars like *Razi* (820AD), *Majoosi* (930AD), and *Ibne Sina* (980AD) were of the view that *Imtilā* can be classified into the following. [22,24,30]

1. *Imtilā bi Hasbil aw'iya* (repletion concerning vessels)
2. *Imtilā bi Hasbil Quwa* (repletion concerning vitality).

***Imtilā bi Hasbil aw'iya* (Repletion concerning vessels)**

Unani physicians have mentioned a rise in vascular pressure because of increased blood volume. In addition, to the increase in volume, they have also aptly regarded the reduced lumen of the blood vessels as a cause of increased vascular pressure. They also mentioned the symptoms associated with such conditions as flushing, heaviness of the head, and prominent and dilated vessels, Lethargy or restlessness, yawning, congestion of eyes, drowsiness, visual disturbances, loss of appetite, lack of concentration, mental stress, nausea, high volume pulse, and dark cloudy urine. [24,29,30,31, 32,33] According to *Razi*, when there is an increased quantity of blood, pneuma, and humor in the blood vessels but the body is in a state of health, then the condition is known as "*Imtilā bi hasbil aw'iya*." [24]

***Imtilā bi Hasbil Quwa* (Repletion concerning Vitality)**

It means that the body's resistance becomes so weak that even small amounts of waste products produce toxicity. [34] According to *Ibne Sina*, repletion regarding vitality means that the trouble is not only because of the quantity of the humor but also because of the morbid state of their quality; because of this morbid state, such humor overwhelms the vitality of the body with the morbid state of their quality yield to the processes of digestion and collection. A person suffering from such repletion is in danger of putrefactive diseases. There is lassitude or fatigue only after excessive movement and activity. There are dreams of itching, stinging, burning, and rancid odors in such repletion. In most cases, repletion regarding vitality produces illness before all its signs manifest. *Ibn Rushd* mentioned in his book *Kitabul Kulliyat* that the increased volume of intra-cellular fluid might result in *Imtilā*, and if associated with abnormal temperament, it is referred to as *Imtilā bi Hasbil Quwa*.

[29,31,34,35,36]. *Majoosi* specified that it occurs due to a weakness in physics (*Tabi'at*). In this condition, food is not properly digested, and waste products are formed in the body, causing lethargy, loss of appetite, heaviness in the head, turbid urine, and night sweating. However, there is no distension or tension of the skin. Redness is not conspicuous, and the pulse is hypovolemic.

Hence, the clinical presentation of *Imtilā* specifically *Imtilā bi Hasbil aw'iya* can be easily correlated with the presentation of hypertension.

According to Unani physicians, another important factor causing primary hypertension is *Salabat Sharayin*. They were also of the opinion that "dryness of temperament (*Yubusat-e-Mizaj*) leads to narrowing and hardening of blood vessels, which results in a decrease in elasticity of arterial walls," which may lead to arteriosclerosis and increased peripheral resistance, causing hypertension. *Ibn Rushd* states the same that dryness is a key factor in the narrowing of blood vessels. [30,35,36]

Factors, mentioned by *Zakariya Razi* responsible for *salabat* in the *nabd* are *Shiddat-e-burudat* (Excessive cold), *Shiddat-e-yubusat* (Excessive Dryness), *Tamaddud* (Excessive stretching of muscle), *Awram-e harah wa sulbah* (Hard Swelling), *Tashannuj* (Spasm), *Sehar* (Insomnia), *Ranj wa Gham* (Grief). [22]

As per Unani Fundamentals, the genesis of *akhlāt* (humors) takes place in the *jigar* (liver), which is the seat of *istehal awwal* (first metabolism) in the body¹²⁴. Due to exogenous factors in general and sue" mizaj jigar in particular, *ghair tabaie sawda* is produced in the body, which is *muhtariq* (Melancholic melanchole), due to excessive heat (*hararat-i-ghariziyya*). Thus, *muhtariq sawda* further increases *yubusat* in the body. This excessive *yubusat* in the body alters the *tabai-e-mizaj* of blood vessels from *ratab* to *yabis* and ultimately leads to *salabat* (stiffness) in the vessels. [27] *Ibne Sina* said that the hardening of blood vessels restricts the stretching of vessels. He described the causes of *salabat* in *nabz* as vessels' dryness and cold temperament. Severe constriction of vessels raises vessel pressure by increasing tension within vessels. [35] *Majoosi* has also mentioned that *sawda muhtariq* leads to *Yubusat* (dryness), causing stiffness of vessels, thus preventing the contraction and relaxation of the blood vessels. The reason for narrowing is generally mediated by the dominance of the *Yabis* (dry) temperament, which hardens the walls of the vessels. Therefore, in *Nabz-e-Sulb*, the hardness of the vessels is facilitated by the dominance of

Yubusat, particularly common in old age, as excess dryness counters the presence of wetness which otherwise helps in the relaxation and expansion of vessels. [30,36]According to *Zakaria Razi*, people with *yabis mizaj* have their pulse hard and constricted" . [36,37]. "*Nabz-e-sulb* is the result of the development of stiffness due to *burudat* or *yubusat* or constriction in the vessels." [38]According to *Arzani*, Hardness in the *Nabz* is due to *Yubusat* because *Yubusat* eliminates *Rutubat*; hence the properties of easy expansion and contraction of *Nabz* are decreased.[39] According to *Ibn-Rushd*, a hard pulse indicates that there is either *sue'mizaj yabis maddi* like *galbae sawda* or *sue' mizaj yabis ghair maddi* like *sardi* (cold) in the body. [36]According to *Majoosi*, *Muhtariq Sawda* leads to *Yubusat*, which causes *Salabat* (stiffness) in vessels, inhibiting their contraction and relaxation.[27]According to *Abu Marwan*, *Yubusat* produces constriction in the brain, similarly to in vessels. And if there is *Salabat* in the *Nabz*, it results from extreme *Yubusat* in the heart.[40]*Yubusat* serves to *Quwwate Masika* provided that *Yubusat* increases the contraction of the fibers the tools of the *Quwwate Masika*. [28]*Allama Nafees* explained that the viscosity of normal blood is neither too thin nor too thick. It is an essential factor. Blood pressure depends upon the viscosity of the blood, which maintains blood circulation.[41]

Majoosi believed that *Imtilā* is a condition owing to excessive food intake. Alcohol, physical inactivity, and bathing may lead to the accumulation of waste products in the body. *Razi*, concerning the etiology of *Imtilā bi Hasbil aw'iyā* states that consumption of less nutritious foods produces vicious humors in the body, resulting in conditions of *Imtilā*. As stated by *Majoosi*, the abnormal accumulation of morbid matters, both active and stagnant in the blood vessels, may lead to increased tension and pressure. Generally, this *Imtilā* ' is predisposed by the dominance of increased volume of blood in the blood vessels. The weakness of *Tabi'at* (*Medicatrix Naturae*) is the primary etiology, as vicious matters are not completely evacuated out of the body, and their retention produces bad humor. While as per the opinion of *Ibn Sina*, poor digestion and absorption of morbid matters result in their accumulation *Imtilā bi Hasbil Quwa* compounded by the weakness of *Quwwat Dafi'a*. Furthermore, *Ibne Sina* and *Majoosi* also stated that excess food consumption, alcohol, physical inactivity, and lack of exercise results in the accumulation of waste product in our body, both *Mahmooda* (normal) and *Ghair Mahmooda* (abnormal), which are toxic for the body and such *Imtilā* ' is commonly seen in obese person.^{107,111,113,118} [30,27,32,42]

Besides these factors, weakness of blood vessels also serves as the cause leading to the stagnation of abnormal humors in the arteries.¹¹⁷[43]

Conclusion

In conclusion, the comprehensive review of Unani literature on the etiopathogenesis of *Zaghtuddam Qawi Ibtidai* (Primary Hypertension) reveals a rich and nuanced understanding of the condition within the traditional Unani medicine framework. The synthesis of historical perspectives, clinical observations, and theoretical constructs offers valuable insights into the multifaceted nature of primary hypertension according to Unani principles. While further research and integration with contemporary medical knowledge are warranted, this exploration underscores the holistic approach of Unani medicine in elucidating the intricate interplay of factors contributing to the onset and progression of primary hypertension. Such insights can potentially inform a more holistic and culturally sensitive approach to the management and prevention of hypertension in diverse populations.

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