



Zaghtuddam Qawi (Hypertension): Concepts and Its Management in Unani System of Medicine

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ABSTRACT

Hypertension is one of the most prevalent conditions seen worldwide. An estimated 1.13 billion people worldwide have hypertension. It can lead to severe health complications and increases the risk of heart diseases, stroke as well as death in some cases. Hypertension accounts for 6% of death worldwide. Hypertension is generally classified into 2; namely primary hypertension and secondary hypertension. Primary or essential hypertension in which the cause of hypertension is unknown. And about 80- 95% patients of hypertension is included in this category. Whereas, secondary hypertension in which the blood pressure is due to the diseases of kidney, endocrine or some other organs and this comprises about 5-20% of cases of hypertension. Unani physicians well described hypertension in the context of *imtila*. They were aware of *zaghta-e-damvi* (blood pressure) and said that hypertension occur due to *su'e-mizaj-damvi*. They described most of the manifestations of hypertension such as headache, vertigo, epistaxis, palpitation due to *imtila*. Physicians also believed that hypertension is a manifestation of *yabusat-e-mizaj* (dryness) which is a main cause of atherosclerosis.

1. INTRODUCTION

On 1934, Harry Gold Ballet termed hypertension for the first time. Unani scholars were well aware of hypertension and its symptoms but they didn't give a specific term for it. Unani physicians well described hypertension in the context of *imtila*. They were aware of *zaghta-e-damvi* (blood pressure) and said hypertension occurs due to *su'e-mizaj*. The term *zaghta-e-damvi* has not been mentioned in any of classical Unani literature but Avicenna in his book "Canon of Medicine" described it in detail (Ahmad-1983)

According to Unani theories, *imtila* is of 2 types,

1. *Imtila ba hasbul aw'iyya* (repletion with respect to vessels)

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2. *Imtila ba hasbul quwa* (repletion with respect to vitals)

Epidemiological studies have revealed that with evaluation in systolic and diastolic blood pressure above normal in adults there is continuous increased risk of cardiovascular disease, stroke and renal disease. Cardiovascular risk increase with every 20 mm Hg increase in systole and 10mmHg in diastole.

Hypertension is generally classified into 2:

1.1 Primary /essential hypertension

The cause of increased blood pressure is unknown. Essential hypertension constitutes about 80-95% patients of hypertension.

1.2 Secondary hypertension

It is caused by disease of kidney, endocrine or some other organ (Harsh-2004)

1.3 Determinants/Risk Factors

Viscosity of blood (*qiwamuddam*) creates the peripheral resistance thereby the blood pressure is maintained which results efficient circulation of blood. Ibn-e-Abbas mentioned that the *qiwamuddam* of the venous blood is higher than the arterial blood due to pressure tension of *bukhara-e-dukhanian* (CO_2) in the blood. Whether the pulse is high, low or normal depends on several factors, i.e. the output from the heart, the resistance of the blood stream to the blood vessels or the volume of blood and blood distribution to the various organs. These are caused by the impingement of the six essential factors, especially diet and emotions, while they are caused by the activities of hormones and enzymes of different glands, the nervous system and also by psychological factors (Bhika and Haq-2000; Ahmad-1980).

1.4 Types of Hypertension

After thorough study of Unani literature, it may be concluded that hypertension seems to be a manifestation of dry temperament (*mizaj-e-yabis*). But according to Rashid Bhika, there are two main types of hypertension:

- (a) due to a hot and moist, or sanguineous imbalance; and
- (b) due to a cold and dry, or melancholic imbalance.

1.5 Sanguineous hypertension

In hypertension due to an imbalance in the hot and moist qualities, there is an increase in the volume of blood circulating within the body. Those who have a dominant or sub-dominant sanguineous temperament are at greatest risk. This form of hypertension results from the person consuming excessive amounts of hot and moist food, as well as incorrect management of the governing factors. This leads to an excess of hot and moist qualities. This form of hypertension is equivalent in most respects to essential hypertension (*zaghtuddam qawi ibtedae*).

1.6 Melancholic hypertension

In hypertension due to an imbalance in the cold and dry qualities, there is increased rigidity of the person's blood vessels, especially of the arteries and arterioles, arising from a person having a melancholic (cold and dry) imbalance in the vascular system. This type of hypertension is usually found in those who have a melancholic dominant or sub-dominant temperament. The raised blood pressure is due to the person consuming too much food which is predominantly cold and dry, resulting in an increase of the melancholic humour, as well as increasing the cold and dry qualities from persistent abuse of the governing factors. Furthermore; Razi, Majoosi, Ibn-e-Sina described *imtila-ba-hasbul aw'iyya*, *imtila-ba-hasbul quwa* and complications, which are commonly found in the hypertension.

- (i) *imtila-ba-hasbul aw'iyya* (repletion with respect to the vessels)
- (ii) *imtila-ba-hasbul quwa* (repletion with respect to the vitality)

1.7 Imtila-ba-hasbul aw'iyya

Imtila-ba-hasbul aw'iyya means the quality of humors and vital forces (*akhlat wa arwah*) is normal but the quantity of humors is increased so that the blood vessels become overfull and distended. This increase in blood volume leads to increased vascular pressure. Those who are affected (with *imtila*) such individual's physical activities are likely to threaten themselves. Sometimes *imtila* cause rupture of vessels, followed by a flux towards the regions where there is back pressure and choking (anoxia) of these parts may occur, with subsequent palpitation, epilepsy and or paralysis. Unani physicians have also attributed decrease in the lumen of blood vessels as a cause for increased vascular pressure. They have described heaviness of head and visual disturbances as the symptoms of *imtila* and rupture of blood vessels in the form of epistaxis, hemoptysis and haemorrhage as its complications. Patients of *imtila* with hemorrhagic tendency are advised timely venesection to decrease the blood volume and prevent the chances of haemorrhage which may result in sudden death. Light diet and rest is also advised to such patients. Razi said that, although there is increase in humors, but the ratio before and after *imtila* is same (Shah-2007; Kabiruddin 1930). Jalinoo (Galen) recommended venesection (*fas'd*) for those patients who have symptoms like anxiety, excessive sleep and visualization of red objects in dream during sleep. The incidence of decreased lumen of blood vessels has also been mentioned by Ibn Rushd. He has described that callose (*kaimoos*) gets accumulated in blood in excess amount resulting in increased pressure and repletion of blood and *ruh*, causing general repletion of body. Ibn Sina has described this type of *imtila* arise either due to strong retentive faculties (*quwwat-e-masika*) or weak expulsive faculties (*quwwat-e-dafia*) (Razi et al., 2000).

1.8 Imtila-ba-hasbul quwa

Imtila-ba-hasbul quwa is also called *imtila-ba-hasbul-kaiflat*. In *imtila-ba-hasbul quwa* the trouble is not only because of the general excess of humors but their quality is also abnormal. Such humors control the vitality of the body with their morbid nature and do not yield to the normal processes of digestion and metabolism to be operative efficiently. Person suffering from *imtila-ba-hasbul quwa* are more prone to infectious disease. It means that the resistance of the body becomes weak, so that even small amount of morbid matter may produce toxicity. One feels heaviness and dullness in spite of absence of any apparent cause for the same. According to Majoosi, it occurs as a result of weakness of *tabiyat* due to which, food is not properly digested and morbid matters are formed causing heaviness and tiredness. In *imtila-ba-hasbul quwa* both the quantity of humours and their morbid state cause the pathological condition. Such humours take the control of vitality of the body and affect the normal functioning of the body. A person suffering from this condition is at high risk of putrefactive diseases.

According to Ibn Rushd the increased volume of intracellular fluid causes a state of *imtila*. When it is associated with some degree of derangement in the temperament, it is called *imtila-ba-hasbul quwa*. A deviation in the temperament

of blood is again a cause of *imtila*. He has described signs and symptoms of this condition which are similar to those described by other Unani scholars.

According to Razi, in this type of *imtila*, *tabiyat* becomes unable to do its work due to excess of blood. *Quwwate ghaziya* absorbs nutrients from the blood but *tabiyat* fails to make it a part of the body and therefore leading to this type of repletion.

Before the onset of the symptoms of *imtila-ba-hasbul quwa*, the diseases manifests later the symptoms (of *imtila*) will appear. Whereas, in *imtila-ba- hasbul aw'iyya*, the symptoms marked first, then the disease appears (Shah-2007; Kabiruddin -1930; [Ibn Sina Abu Ali Husain bin Abdullah-1993; Ibn Rushd-1987).

1.9 Etiology

Ali Abbas Majoosi is of the view that *imtila* is caused by excessive intake of food and alcohol and avoidance of exercise and *hammam* (wet and steam bath). It can further be the outcome of physical inactivity, rest and repose as the conditions lead to accumulation of *fazool* (metabolic products). *Imtila* is more prevalent in people in lean or aesthenic built, as the rate of absorption of *fazool* is more than their resolution (*tahleel*) (Majoosi Ali Ibn-e-Abbasi-1889).

Environmental factors implicated in the causation of hypertension include *umoor-e-nafsania* (stress, anger and anxiety), obesity, *istifragh* (evacuation), corpulence and derangement of temperament. In fact ancient Unani physicians were pioneer in this field and had developed their own skills (Kabiruddin-1030; Ibn Rushd-1987).

1.10 Pathophysiology

In Unani and modern medicine, the increase venous return (increase cardiac output) is the mirror image of *imtila-ba-hasbul -aw'iyya* (Ahmad-1980).

Erasistratus determined that disease was due to plethora. When local excesses of blood accumulated in the veins, the overloaded vessels were damaged and blood leaked from the vein into the arteries. When this happened the flow of vital spirit, which was supposed to be disseminated by the arteries, would be obstructed (Shah-2007).

Unani physician has given the concept of hypertension as *imtila ba hasbul aw'iyya* and said that this occur due to *su'e- mizaj damwi* and comes under the heading of *imtila*. They also believed that hypertension is a manifestation of *yabusat-e-mizaj* (dryness) which is the main cause of atherosclerosis. Dryness causes hardening and narrowing of blood vessels.

Hypertension is a condition associated with headache (especially in the morning), palpitation, breathlessness, fatigue (especially in the evening), flushing of the face and sometimes epistaxis. These symptoms may or may not be present in all the cases.

1.11 According to Majoosi

Due to weakness in the arteries, contraction and relaxation could not perform properly and thus *imtila* occur as there is stagnation of abnormal humour in the arteries (Majoosi Ali Ibn-e-Abbasi-1889). He further says *muhtariqe sauda* leads to *yabusat*, which causes *salabat* (stiffness) in vessels, inhibiting their contraction and relaxation. If *sauda* is putrefied, it will increase in quantity and will produce more stiffness because this is *muhtariqa sauda* and it has more *yabusat* (Majoosi Ali Ibn-e-Abbasi-1889).

Yabusat serves to *quwate masika* provided that *yabusat* increases the contraction of fibres. The tools of the *quwate masika*, that is oblique fibres remains in position of contraction because of that the nutrient materials are staying there. *Quwate masika* is mediated with *burudat* and *yabusat*.

Reason of narrowing and closing of canals and pathway is dominance of the *yabis mizaj* (dry temperament) of the body. If *su'e mizaj* predominates on the body, then it may harden the vessels. Closing of canal is either due to excess of *quwate-masika* or weakness of *quwate-dafia*. *Af'al-e- nafsaniyah* such as anger, anxiety, tension etc is the symptoms of *hararat* and *yabusat* (hotness and dryness) (Ibn Rushd-1987). Ancient physician were aware of *zaghta-e- damwi* (blood pressure). They were considered *zaghta-e-inqabazi* as systole and *zaghta-e-imbesati* as diastole. The organs of circulation have been described by Ibn-ul-Nafees. The function of heart described by Aristotle has been completely negated by Ibn Nafees-al-Damishqui and Zakariyya Qazvini.

1.12 According to Zakariyya Qazvini (Magner N.Loisi-2005)

"The arteries arise from left ventricle so, as to infuse the pure air in the entire body and veins from the right side". When blood pressure is more than normal it is considered as high blood pressure or hypertension (Bhika and Haq-2000). In Al-Maliki by Al Abbas, has mentioned that the basis of health is right proportion and specific equilibrium of *akhlat* (humours) according to their quality that is homeostasis in the internal environment. Hence, so long this homeostasis in the internal environment is maintained, the body remains healthy. *Ratubat tajawif* and *ratubat uruq* which make the internal environment of the whole body have also fixed *mizaj* (homeostasis) fluctuating within certain maximum and minimum limits. Any disturbances in *kamiyat* (quantity) and *kaifiyat* (quality -composition) of *ratubat al- tajawif* or *ratubatul uruq* (internal environment of the body) or disturbance in the homeostatic condition of the internal environment of the body causes *su'e mizaj* of the entire body (Ahmad-1980). Increase blood volume produce risk in blood pressure. It indicates *nabz mumtali* (full or hypervolumic pulse). This is seen when cardiac output is more than eventually. Unani scholars gave plenty description about the blood pressure determinants but they were incapable to assemble these descriptions as disease. Modern Unani physicians and authors use the term *zaghtuddam qawi* in present concept cannot be found from classics of Unani. Yet the condition called "*imtila*" has been widely conversed by all the Unani philosophers in the history. When studied thoroughly the clinical features of *imtila* in classical

literatures of Unani medicine corresponding with clinical features as encountered in the patients of hypertension. Therefore we can co-relate that both these terms *imtila* and Hypertension as "*zaghtuddam qawi*". Anything, that increase venous return, also increases cardiac output can be considered *imtila-ba-hasbul aw'iyya*.

1.13 Clinical Manifestation

Imtila is manifested as headache, congested eyes, pulsatile arteries, puffiness of face, heaviness in head, restlessness, yawning, epistaxis, dark colored turbid urine, lethargy, flushing of face, warm body without any external cause like heaviness (in head, temple and eyes), eruptions, stretching of skin, redness of complexion, reduced appetite, loss of libido, fullness of pulse, blurring of vision Shah-2007; Kabiruddin-1930; Ibn Sina Abu Ali Husain bin Abdullah-1993).

On the other hand, many Unani physicians described *khafqan* (palpitation), *sakta* (apoplexy), *sadar wa duwar* (giddiness and vertigo), etc. in which *imtila* is one of the causes in all above condition.

1.14 Complication

Aristotle said that, when body blood becomes *fasid* (deranged blood) it flows toward nose and rectum (Ibn Rushd-1987). Severe *imtila* may be responsible for hemorrhage, apoplexy, and sudden death (Razi-2000).

1.15 Management

Hypertension is a life style problem and life style modifications are a perfect management, control and prevention of it. The term hypertension is not mentioned as such in classical Unani literature but clinical features representing hypertension have been mentioned under *imtila-ba-hasbul aw'iyya*.

As per Unani concept the principle of management is to reduce *imtila* by decreasing the blood volume. This principle can be achieved by giving non-pharmacological regimen as well as pharmacological interventions. A number of drugs have been mentioned in the treatment of hypertension which contributes to alleviate the symptoms in many ways like *mufathihaat* (vasodilators), *munawimmat* (hypnotics), *musakkinat* (relaxant) and *mudirrat* (diuretics) etc.

1.16 Line of treatment

1. *Ilaj bil-ghiza* (dietotherapy)
2. *Ilaj bil-tadbeer* (regimental therapy)
3. *Ilaj bil-dawa* (pharmacotherapy)

1.17 *Ilaj bil-ghiza* (dietotherapy)

There is a vivid description of dietary recommendations in Unani medicine for the patients of hypertension. The group of dietary supplements that control common risk factors such as hyperlipidaemia, atherosclerosis and anxiety are commonly recommended for improving the state of

hypertension and its complications.

- For therapeutic purpose- *taqleele ghiza*, *ghiza mufarrih*, *ghiza mulattif* are used.
- For preventive purpose- subsequent the six essentials of life (*asbabe sitta zarooria*), if one takes the diet in proper quantity & quality i.e, according to energy consumption per day, proper timings, proper sequence (first *ghiza ghaleez* followed by *ghiza lateef*) & according to habit, can be protected from a number of diseases (Beckerman-2005).

1.18 *Ilaj bil tadbeer* (regimental therapies)

Ilaj bil tadbeer involves the modification of *asbab-e-sitta zarooria* (six essentials of healthy living). It is very helpful in prevention as well as control of high blood pressure. A significant diminution of risk factors have been observed after strictly following the regimens of maintaining *asbab-e-sitta zarooria* including adequate sleep, increase in physical work, stress free life etc. The regimental therapies mentioned in Unani system of medicine are basically applied for *ilaj bil istiferagh* (evacuation of *madda*/ matter causing disease and rectifying the humours). These includes *fas'd* (venesection), *hijama bil shart* (wet cupping), *nutool*, *tareeq* (diaphoresis), *ishaal* (purgation), *taleeq* (leeching).

1.19 *Fas'd*

Fas'd /venesection a procedure of bloodletting, provides immediate relief in the symptoms & prevents the complications of hypertension Beckerman-2005; Razi-2000).

1.20 *Hijama bil shart*

Hijama bil shart/wet cupping relieves *imtila* in which bleeding is promoted by incising the superficial small vessels, located in muscles. *Hijama* on *al-kahil* (the intra scapular region excluding vertebral column) is recommended for hypertension (Raeesuddeen-2010).

The author of *Al hawi fit tib*, Al Razi has mentioned *hijama* on *al kahil* (the intra scapular region excluding vertebral column) for the treatment of *imtilae dam* with *khafqan* (Albucassis-1973).

Al-Zahrawi has described "the application of cupping in between the shoulders helps in *khafqan* of the heart arising from *imtila*" (Mohamed and Addawaul 1999). It has been trialed and reported that *hijama on kahli* is proved to be effective on Hypertension for several months.

Hypertension is considered as a type of *imtila*, then as per the prescription of Unani physicians like Al Zahrawi, Al Razi, Ibn Sina, '*fas'd*' is to be undertaken immediately, to counter the adverse effects of the condition. But, certain conditions are not favourable for *fas'd* as such defined by Ismail Ahmad al Hassan Muhammad Ahmad al Hasni al Jurjani (*jurjani*) in his compendium "*Zakharat khuwarjam shahi*" and recommended *hijamat* over *fas'd*.

1.21 Nutool

Nutool is a technique of dropping oil/decoction of certain drugs on head from some height, is used for therapeutic purpose to relieve headache, heaviness and more specifically to change the temperament of the organ (Sina I. Kulliyate Qanoon-2006).

1.22 Ilaj bil dawa (pharmacological treatment)

There are a number of anti-hypertensive drugs available like calcium channel blockers, ACE inhibitors, beta-adrenoreceptors etc. But their side effects like weakness, fatigue, leg cramps, depression, hacking cough, skin rashes, swollen ankles, palpitations, anaemia, constipation, fever, diarrhoea, heartburn, excessive hair growth, headache, dizziness, numbness & pain in toes, dryness of mouth & eyes, sleeping difficulties etc, always make it troublesome for the users (Sina-1996). Keeping in mind the effect & side effects of anti-hypertensive drugs for prolonged use, the inconvenience & the inaffordability, health agencies are running towards their alternatives.

Unani system of medicine has a long list of such types of drugs that possess high efficacy & least upshots. These drugs have the properties of *latafat* (thinning of blood), *tahallul* (resolving thick & viscid humour) & *istifragh* (evacuate the undue amount of matter via micturition) (Raeesuddeen-2010). E.g. *Adrak* (zingerber officinale), *hulba* (trigonella foenumgraecum), *zafran* (crocus sativus), *badiyan* (foeniculum vulgare), *darchini* (cinnamomum zeylanicum), *asrol* (rauwolfia serpentina), *asqandh* (withania somnifera), *zarishk* (berberis aristata), *badranjoboya* (mellisa officinalis), *lehsun* (allium sativum), *rehan* (ocimum basilicum), *ushna* (usnea longissemma), *asaroon* (asarum europium), *bisfajj* (polypodium vulgare), *daroonje* (dorenicum hookeri), *zaranbad* (eclipta prostrata), *sumbulluttib* (vallerenia jatamansi), *faranjmushk* (ocimum gratissium), *sandal* (sandalinum), *qaranfal* (eugenia caryophyllata), etc. (Bari-2007; Al Razi-2002).

1.23 Nuskha (Formulations)

Nuskha 1

Take; *Asrol* (3gm), *Filfil-e-siyah* (5gm). Powder them and add *sharbat-e-unnab* into them mix well and make a *sharbat*.

Nuskha 2

Take; *Asrol*, *Filfil -e-siyah*. Powder them and mix them well. Now add *Aftimoon valaathi*. Take all these ingredients in a cloth and tie it. Now dip it in water taken in a container and place it on flame and heat it.

• Murakkabat

- ✓ *Jawarish oudhe mulayyan*
- ✓ Compound formulations of *Asrol*:
 - *Asrofin*
 - *Serpasil*
 - *Serpina*
 - *Raudirin*
 - *Rau wiloid*
 - *Hab fishar* etc...

- ✓ *Musakkin advia* (Sedatives)
 - *Qurse musakkin*
 - *Jawarish shahi*
 - *Habb-e- sukoon*
- ✓ *Mudir-e-adviya* (Diuretics)
 - *Arq-e-zeera*
 - *Arq-e-badiyan*
- ✓ *Munawwim adviya* (Hypnotics)
 - *Ikseere shifa*
 - *Rooghane khashkhaash*
 - *Rooghane kaahu*
- ✓ *Mufattih advia* (Vasodilators)
 - *Maul Asl*

2. CONCLUSION

Hypertension becoming a major public health problem day by day. It burdens the community with premature mortality and disability. Moreover, its expensive treatment along with the side-effects of drugs compels the people to be irregular with their prescriptions. Hence, alternatives to cope up with this problem are required. Unani system of medicine have full regimen to control and prevent hypertension in time. Each and every regimen of Unani system of medicine has its own gravelling effects. Even nowadays WHO, itself accenting on diet control for better prevention of hypertension which is more or less same as described by Unani physicians under *ilaj bil ghiza*.

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