

Concept of *Ziabetus shakari* - Type 2 Diabetes Mellitus in Unani System of Medicine

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Abstract Type 2 Diabetes Mellitus is not a new disease, ancient Greeks and Arabic physicians knew it well. They investigated it, thoroughly and have prescribed various treatments. The various classical text books of unani medicine also contain detailed descriptions of this disease, differentiating its distinguished features from other diseases known as tashkhees e fariqa. The causes of disease are sue e mizaj wa zauf e kulliya, masana wa jigar (disordered temperament and weakness of kidney, bladder and liver). Most of the Unani scholars believe that diabetes is caused due to su'e mizaj balghami (abnormal phlegmatic temperament). In the present paper concept of Ziabetus Shakari (Type 2 Diabetes Mellitus) in Unani system of medicine will be discussed in detail.

Keywords *Balghami; Sue e mizaj; Type 2 Diabetes Mellitus; Ziabetus shakari*

1. Introduction

Diabetes mellitus is an important public health problem, worldwide. The global increase in the prevalence of diabetes is due to population growth, ageing, urbanization, an increase of obesity and physical inactivity [1, 2, 3].

Globally, the number of people with diabetes will more than double over the next 25 years, increasing from 171 million in year 2006 to 366 million by 2030 [3, 4, 5, 6, 7].

The International Diabetes Federation estimates the total number of people in India with diabetes to be around 50.8 million in 2010, rising to 87.0 million by 2030 [2, 6].

Diabetes mellitus is a heterogeneous metabolic disorder characterized by common features of chronic hyperglycaemia with disturbance of carbohydrate, fat, and protein metabolism [8]. It is sub-divided into two types, namely type 1 and 2, and classically characterized by hyperglycaemia with other clinical presentations such as polyuria, polydipsia, polyphagia, fatigue and irritability. In type 2 diabetes

mellitus, many patients are relatively asymptomatic initially. Hyperglycaemia is the classical feature in both types of diabetes mellitus.

The word diabetes is derived from Greek word of, “*diabanein*” which means to “passing through” or “run through” or “siphon” in reference to the excessive urine produced as a symptom of this disease. In Unani system of medicine, diabetes described by various Greek and Arabic vernaculars as synonyms of diabetes are “*Ziabetas*”, “*Ziasaqus*”, “*Qaramees*”, “*Dawar*” (giddiness), “*Dolab*” (water wheel) and “*Zalaqul kulliya*” (slippery nature of the kidneys or diarrhoea of the kidneys).

2. Diabetes Mellitus (*Ziabetus Shakari*)

As per the WHO, diabetes mellitus (DM) is a heterogeneous metabolic disorder characterized by common features of chronic hyperglycaemia with disturbance of carbohydrate, fat, and protein metabolism [8].

As per the Canadian Diabetic Association (CDA), diabetes mellitus is a metabolic disorder characterized by the presence of hyperglycaemia due to defective insulin secretion, defective insulin action or both. The chronic hyperglycaemia of diabetes is associated with relatively specific long-term microvascular complications affecting the eyes, kidneys and nerves, as well as an increased risk for cardiovascular disease (CVD). The diagnostic criteria for diabetes are based on thresholds of glycaemia that are associated with microvascular disease, especially retinopathy [9].

As per the American Diabetic Association (ADA), diabetes mellitus is a group of metabolic diseases characterized by hyperglycaemia resulting from defects in insulin secretion, insulin action or both. The chronic hyperglycaemia of diabetes is associated with long-term damage, dysfunction, and failure of various organs, especially the eyes, kidneys, nerves, heart, and blood vessels [10].

In classical Unani literature, most of the Unani physicians have described *Ziabetas* or *Siyabates* with its number of Greek and Arabic vernaculars and defined *Ziabetas* symptomatically as characterized by excessive thirst and increased frequency of urination soon after taking fluid. They mentioned diabetes a disease with frequency of urination soon after taking fluid. It was described by various Greek vernacular as synonyms of diabetes like “*Ziabetas*”, “*Ziasaqus*” and “*Qaramees*” and also by different Arabic vernacular like “*Dawar*” (giddiness), “*Dolab*” (water wheel) and “*Zalaqul kulliya*” (slippery nature of the kidney or diarrhea of the kidneys) [11, 12, 13, 14, 15]. The various classical text books also contain detailed descriptions of this disease, differentiating its distinguished features from other diseases known as *tashkhees e fariqa* [6, 7, 11, 16].

3. Concept of *Ziabetus shakari*- Type 2 Diabetes Mellitus in Unani System of Medicine

Ibn Sina stated in his book of *al qanoon fit tib*, the word diabetes is derived from Greek word of, “*diabanein*” which means to “passing through” or “run through” or “siphon” in reference to the excessive urine produced as a symptom of this disease. It is not a new disease, ancient Greeks and Arabic physicians knew it well. They investigated it, thoroughly and have prescribed various treatments. Patients feel thirsty, the amount of water uptake by kidney, simply does not match by the amount of water drunk by the patients and soon after taking water, it is excreted out. The causes of disease are *sue e mizaj wa zauf e kulliya, masana wa jigar* (disordered temperament and weakness of kidney, bladder and liver) [11].

Zakariya Razi stated in his book of *Kitabul Havi*, dribbling of urine is the only complaint of the disease because whatever enters to the bladder gets excreted immediately without being held. The patient feels excessive thirst, drinks plenty of water and whatever he drinks get expelled without any changes. In this disease conditions the temperature of kidneys become hot due to which it absorbs water, but due to weakness of its retention power (*Quwat e masika*) it eliminate *rutubath* towards bladder i.e. the bladder does not absorb water from kidney. Kidneys tend to suck fluid from vessels and absorb it. The vessels suck fluid from liver and the liver absorbs it from stomach and intestine. Consequently the patient feels excessive thirst and drinks plenty of water. But the fluid gets micturated and the problem persists as such. It is difficult to cure [12].

4. The Mizaj (Temperament) of *Ziabetas Shakari* (Type 2 diabetes mellitus)

Most of the Unani scholars believe that diabetes is caused due to *su'e mizaj balghami* (abnormal phlegmatic temperament); which is also caused by cold and moist humor [7, 16].

4.1. Classification of *Ziabetas* According to Classical Unani Literature

According to the presence or absence of sugar in the urine, *Ziabetas* is divided into two types:

- 1) ***Ziabetas Sada***: Which is also called *Ziabetas ghair shakari*. It is characterized by excessive thirst and excessive urination but there is no sugar in the urine [6, 7, 16, 17].
- 2) ***Ziabetas Shakari***: This is characterized by excessive thirst and urination and presence of sugar in the urine. In this disease patient has excessive thirst and takes plenty of water and passes all the water he consumed without any metabolic changes. *Ziabetas Shakari* has been correlated with type 2 diabetes mellitus and described accurately the clinical features and specific complications of disease in classical Unani literature [6, 7, 16, 17].

According to the *khiffat* and *shiddat* (intensity) of the sign and symptom, it is also divided into two types:

- 1) ***Ziabetas Haar***: Acute symptoms of the *Ziabetas* with abrupt onset occur like excessive thirst (polydipsia) and increase urination (polyuria) with other symptom and sign of *sue mizaj haar* like heat in flanks and dryness of the body, due to *sue mizaj haar sada* of kidneys [6, 7, 16, 17].
- 2) ***Ziabetas Barid***: In which the thirst and frequency of urine is comparatively less. In this disease *mizaj* of kidneys disturbed so they absorb water from blood and send to the urinary bladder immediately due to weakness in *Quwate Masika* (retentive power).

It has also been described that the kidneys attract the watery substance of blood, but the urinary bladder does not attract anything. Therefore kidneys attract the water from the circulation, liver, stomach and intestine, because of which patient has the immoderate thirst (polydipsia) [6, 7, 16, 17].

4.2. Etiopathogenesis Described in the Classical Unani Literature

Unani physicians described some underline etiopathogenesis in classical Unani literature. The important etiological features mentioned in Unani are following:

1) **Zaufe Gurda (Weakness of Kidney)**

Water cannot retain properly due to weakness in kidneys and its *Quwwate masika* (retentive faculty) and kidneys are unable to metabolize the water [7, 16, 19, 20].

2) **Ittesae Gurda wa Majrae Baul (Dilatation of Kidney and Tubule)**

Water cannot be retained for longer duration due to dilatation of *Gurda wa Majrae Baul*. So it passed out rapidly (polyuria) [7, 11, 19].

3) **Buroodate Badan, Jigar wa Gurda**

Sometimes *Ziabetas* develops due to excessive exposure of cold in whole body or liver or kidney, which leads to *sue mizaj barid* (cold derangement in temperament) [7, 11, 16, 19].

4) **Sue Mizaj Haar Gurda (Hot derangement in temperament of kidney)**

Kidneys absorb water from circulation due to excessive hotness or derangement in temperament. Therefore they cannot retain much amount of fluid and pass in the form of urine frequently (polyuria) to overcome the thirst [7, 16, 19].

5) **Sue Mizaj Barid Guard (Cold derangement in temperament of kidney)**

Sometimes *Ziabetas* develop due to excessive exposure of cold to kidney which may lead to *sue mizaj barid* [7, 16, 19].

Symptoms of *Ziabetus Shakari* in the classical Unani literature:

- Excessive thirst [11, 12, 18]
 - Frequency of urination [11, 12, 18]
 - Dribbling of urine [12]
 - Urine appears white, losing its consistency to resemble like water [18]
 - Excessive micturition without burning sensation [18].
- Incontinence of urine [13]

Complications of *Ziabetus Shakari* are especially enumerated by ancient Unani physicians:

- Zooban (Emaciation of the body), develops due to excessive dehydration of the body which cannot overcome by intake of water [19]
- Collapse of the sexual functions and diabetic gangrene [11]
- General debility [16]

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