Unlocking innate healing potentials in patients with type 2 diabetes

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Abstract

Type 2 diabetes (T2D) is a systemic degenerative disease and progressively changes leading to inconsistent responses to different medications. None of antihyperglycemic drugs even together with other therapies can cure T2D. The human body inherits innate healing potentials to heal diseases including T2D. Healthy lifestyles and alternative medicine can keep innate healing potentials powerful enough to heal T2D by decreasing or abolishing genetic predisposition. Among them, the regulating shoes for self-healing, also called “Chiyu shoes” restore innate healing potentials in T2D patients by combining herbal medicines and magnetic sheets. Such a combination leads to clinical satisfaction in healing T2D.

Introduction

Type 2 diabetes (T2D) is exploding globally, estimated to afflict 415 and 642 million people worldwide in 2015 and 2040, respectively, as shown on the website of International Diabetes Federation. This disease is a life-long condition and needs life-long treatment. It is not only one of the most prevalent diseases, but also one of the most expensive diseases. The global healthcare expenditure to treat T2D is approximated to 850 and 1,000 billion US dollars in 2015 and 2040, respectively, according to information on the Statista website. Currently, antidiabetic therapies mainly focus on glycemic control via administration of insulin and antihyperglycemic drugs [1-3]. These therapies can neither repair the damaged insulin receptor signaling pathway permanently, nor restore functional β cell mass efficiently. Therefore, they cannot persistently normalize blood glucose levels to cure diabetes. In addition, they produce numerous adverse effects such as weight gain, hypoglycemia, fluid retention, nausea, vomiting, needle phobia and clinical inertia [1-3]. The huge health and socioeconomic burdens resulting from T2D represent a major challenge to healthcare systems around the world [4,5].

To beat the challenge, type 2 diabetes (T2D) management has radically been rethought [6-8]. It has been realized that the human inherited healing capacity, referred to as “the ability of human body self-healing” or “innate healing potential”, was not paid enough attention to in managing T2D [6-8]. In fact, the healthy body has impressive innate healing potentials to heal diseases. In essence, modification of lifestyles of T2D patients is to promote their innate healing potentials against T2D. Unlocking innate healing potentials holds great hope for defeating T2D. Here we summarize current knowledge on T2D, discuss important roles of innate healing potentials and highlight the novel approach regulating shoes for self-healing, which effectively unlocks innate healing potentials in T2D patients.

A concise picture of type 2 diabetes

The whole picture of T2D becomes more and more complex. Nevertheless, T2D can succinctly been summarized as a chronic metabolic disorder characterized by hyperglycemia [9-11]. The disease arises from complex interactions between genetic and environmental factors [12-14] (Figure 1). T2D occurs when insulin receptor signaling becomes impaired and/or when pancreatic β cells secrete insufficient amounts of insulin [9,10]. Pathological alterations in insulin signaling pathways and/or inadequate functional β cell mass take center stage in the development of this disease [9-11,15-18]. Concomitantly, many major tissues and organs, including the adipose tissue, skeletal muscle, liver, heart, blood vessels, nerves, eyes and kidneys, undergo obvious pathological changes [9,10,19-22]. Impairments in the adipose tissue, skeletal muscle, liver, brain and microvasculature significantly contribute to aberrant glucose metabolism in T2D [9,10,19-22] (Figure 1). In essence, T2D affects an entire human body and is a systemic disease. T2D is also often referred to as a lifestyle disease since adverse lifestyles act as a key driver of T2D, whereas unhealthy inherited traits just make individuals more vulnerable to the disease [6,14].

Innate healing potentials

The human body inherits an extraordinary capacity to heal itself [6,8]. Such an inherited healing capacity, also referred to as innate healing potentials or self-healing ability, is underlain by the dynamic activity of cells, the basic building blocks of the human body. Each cell is constantly checking and regulating its own processes, dynamically

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operating to restore itself according to its original genetic blueprint. Some cells can replicate themselves to replace those that have been permanently damaged or destroyed. In addition, adult stem cells and progenitor cells reside in some tissues and organs and differentiate into specific types of cells on-demand. This also participates in formation of innate healing potentials. The innate healing potentials of the human body can alter significantly under pathological scenarios (Figure 2) [6,8]. Diseases occur when innate healing potentials are diminished, constrained and locked. Innate healing potentials are modifiable by intervening environmental factors (Figure 2).

Currently, there is no cure for T2D although numerous therapies have been attempted to treat this disease [1-3]. However, the fact that manipulation of environmental factors and in particular lifestyles can effectively prevent and treat T2D convinces us that nature bestows on the human body innate healing potentials to protect against T2D [6,8,14]. It is most likely that innate healing potentials in T2D patients are somehow locked up (Figure 2). Unlocking these innate healing potentials should be considered as one of the most promising ways to defeat T2D. World Health Organization encourages people to get rid of drug dependence by maximally taking advantage of innate healing potentials. In many circumstances, innate healing potentials are competent to maintain and restore human health [6,8].

The importance of microcirculation in the maintenance and restoration of innate healing potentials

Glucose-dependent tissues take up glucose from the blood and oxidize it to generate energy in the form of adenosine triphosphate (ATP) or to store it in the form of glycogen [23]. Upon entering into cells, glycolysis occurs, thereby producing two pyruvate molecules and a net gain of two ATP molecules from one glucose molecule. After glycolysis, pyruvate moves into the mitochondrial compartment generating additional 34 (in skeletal muscle) or 36 ATP molecules (in other cell types) from two pyruvate molecules [23]. The above two processes occur consecutively under oxygen-sufficient conditions. If there is a lack of oxygen, pyruvate cannot move into mitochondria and just turns into lactic acid [23]. This is why cells including insulin-secreting β cells lack energy, undergo dysfunction and even die under hypoxic conditions.

It is well known that long-standing, uncontrolled hyperglycemia brings about functional and structural damage to blood vessels in T2D patients, causing macrocirculatory and microcirculatory complications and aggravating T2D [24,25]. The opposite is also true. Vascular damage, as exemplified in hypertension, is a causal factor for T2D [26]. Undoubtedly, vascular damage is not only a consequence of hyperglycemia, but also can occur prior to T2D as a causal factor for T2D [26]. Vascular damage and in particular microvascular impairment can no longer provide sufficient blood supply to their surrounding cells. Subsequently, hypoxia, nutrient deficiency and metabolic waste accumulation occur, resulting in a series of pathological events [27-30]. For example, glucose cannot undergo normal cellular uptake and metabolism under hypoxic conditions [31]. It has suggested that intermittent hypoxia may induce insulin resistance and T2D [30]. β cells respond to hypoxia via hypoxia-inducible factor 1a to release less insulin [32]. Recently, a cross-sectional epidemiological study
fields and recent clinical observations, the regulating shoes for self-healing have been issued.

Certificates of copyrighted works based on the regulating shoes for self-healing have been filed in Europe and China, respectively. Thirty-five inventions and eleven invention patents for the regulating shoes for self-healing have been patented in China and Mongolia, respectively. Moreover, magnetic fields also increase red blood cell counts and hemoglobin levels in the body [39]. In China, blood gas measurements have visualized increased oxygen levels in the blood of wearers of the regulating shoes for self-healing.

Figure 2. Schematic illustrations of the unlocking of innate healing potentials in patients with type 2 diabetes. Innate healing potentials are negatively and positively regulated by unhealthy and healthy lifestyles, respectively. Unhealthy lifestyles attenuate or lock innate healing potentials to drive the onset of T2D by potentiating genetic predisposition. On the contrary, healthy lifestyles and alternative medicine, such as the regulating shoes for self-healing, promote innate healing potentials to heal T2D by blocking or at least reducing genetic susceptibility. Therefore, healthy lifestyles and the regulating shoes for self-healing can unlock innate healing potentials in T2D patients to help them defeat the disease.

A new development in unlocking of innate healing potentials in patients with type 2 diabetes

In recent years, many new technologies have been emerging in both modern and traditional disciplines [33,34]. Clinical Medicine including T2D treatments have benefited greatly from these new technologies. Here we focus on the regulating shoes for self-healing, also called “Chiyu Shoes” [35].

General aspects of the regulating shoes for self-healing

Herbal medicines have massively been benefiting T2D patients at least in some parts of the world, such as China and India. Mr. Wu has invented an ingenious method to restore innate healing potentials in patients with T2D by combining herbal medicines and magnetic sheets in specially designed walking shoes, namely, the regulating shoes for self-healing [35]. Four and eleven invention patents for the regulating shoes for self-healing have been filed in Europe and China, respectively. Thirty-five certificates of copyrighted works based on the regulating shoes for self-healing in treatment of geriatric diseases have been issued.

According to therapeutic roles of these Mongolian herbal medicines documented in ancient medicinal writings, bioeffects of magnetic fields and recent clinical observations, the regulating shoes for self-healing act as an effective therapeutic tool against hyperglycemia and hypertension most likely through complex mechanisms. Sixty-eight magnet sheets in a regulating shoe for self-healing are just placed in close proximity to the skin of the foot to produce optimal magnetic fields above blood flow through the foot. The magnetic fields act directly on the primary endogenous magnetic target hemoglobin in the blood because hemoglobin is an iron-containing protein [36]. This results in an elevation of the deoxygcnation rate of hemoglobin and a reduction of blood viscosity [37,38]. Subchronic exposure to magnetic fields also increases red blood cell counts and hemoglobin levels in the body [39]. Moreover, magnetic fields also regulate some signaling pathways, such as the nitric oxide pathway [40-44]. All these biological effects can promote blood flow, oxygen and nutrient supply to and metabolic waste removal from cells, tissues and organs throughout the body. They thereby expedite functional restoration and morphological regeneration of various cells and tissues including insulin-secreting β cells, insulin receptor-expressing cells and glucose-dependent tissues. In fact, blood gas measurements have visualized increased oxygen levels in the blood of wearers of the regulating shoes for self-healing.

On the other hand, 12 types of Mongolian antidiabetic herbal medicines in each Energy Box of the regulating shoes for self-healing produce a variety of additive and synergistic effects against the disease [45]. These effects range from ameliorating insulin-, insulin signaling- and β cell mass-related impairments to normalizing glucose metabolism [45]. These herbal medicines simultaneously and synergistically act on different pathogenic mechanisms of T2D resulting in satisfactory healing in T2D patients [45].

In addition, the magnetic fields and herbal medicines also collaboratively interplay with each other to optimize their antidiabetic roles. Wearing the regulating shoes for self-healing ameliorates microcirculatory perturbations not only in the foot, but also in many major tissues and organs throughout the body [35]. Wearing the regulating shoes for self-healing 10 hours a day for three months has been demonstrated to effectively normalize blood glucose and blood pressure levels in T2D patients [35]. Indeed, the therapy with the regulating shoes for self-healing has yielded impressive clinical outcomes in T2D patients [35]. This emphasizes that the complex systemic disease T2D involved in multiple pathogenic mechanisms cannot be cured by symptomatic treatment against hyperglycemia alone but can be satisfactorily healed by releasing constrained innate healing potentials in T2D patients. This is convincingly exemplified by therapy with the regulating shoes for self-healing as an effective and innovative form of complementary and alternative medicine in T2D management.

Historical overview of the regulating shoes for self-healing

The regulating shoes for self-healing began to enter design development phase in 1993. A clinical study on the shoes was carried out in China International Mongolian Medical Hospital of Inner Mongolia and Inner Mongolia Autonomous Region’s Hospital in 1995. This clinical study demonstrates that the total effective rate was 90.1% in T2D patients wearing the regulating shoes for self-healing. Moreover, these patients had completely dropped any other antidiabetic therapy in the clinical period [35].

Subsequently, another clinical research on the regulating shoes for self-healing was implemented in China International Mongolian Medical Hospital of Inner Mongolia, Affiliated Hospital of Inner Mongolia Medical University in 2010. Similarly, 92% T2D patient was effectively treated by wearing the regulating shoes for self-healing and did not suffer adverse effects [35].
Recently, a new clinical trial was performed in Institute of Traditional Medicine and Technology of Mongolia, the First State Central Hospital of Mongolia, the Second State Central Hospital, the Third State Central Hospital and Bayanzurkh Hospital for Diabetes during the period from November 2015 to June 2016. Among a total of 269 patients with diabetes, 57, 95, 130, 158, 200 and 249 patients became normal glycemic (about 6 mM) after they wore the regulating shoes for self-healing for up to 30, 60, 90, 120, 150 and 180 days, respectively. The average blood glucose level in these 249 patients was decreased to 5.96 mM. These effectively treated patients account for 92.57% of all patients included in this clinical trial. Except these 249 patients, another 20 patients with a serious medical condition had a significant decrease in their blood glucose values from 17.89 to 7.27 mM. A total of 87.98% of patients did not require insulin and hypoglycemic agents anymore when they wore the regulating shoes for self-healing for up to 180 days.

Conclusions

Unsuccessful attempts to cure T2D have provoked reconsideration of strategies in T2D management. As a matter of fact, the human body possesses innate healing potentials to heal diseases including T2D. Innate healing potentials are negatively regulated by genetic and environmental risk factors (Figure 2). Adverse environmental risk factors diminish, constrain or lock innate healing potentials to provoke the onset of T2D by potentiating the diabetic effects of T2D loci (Figure 2). On the contrary, healthy lifestyles can keep innate healing potentials strong enough to heal T2D by blocking or at least reducing the diabetic effects of T2D loci (Figure 2). Therefore, diet control, physical exercise, weight loss, smoking cessation, drinking in moderation, mind-body exercise and herbal medicines can facilitate unlocking of innate healing potentials in T2D patients to help them defeat the disease.

New ideas and technologies emerged in both modern and traditional disciplines have resulted in some novel smart options to combat T2D, potentials in T2D patients to help them defeat the disease. On the contrary, healthy lifestyles can keep innate healing potentials strong enough to heal T2D by blocking or at least reducing the diabetic effects of T2D loci (Figure 2). Therefore, diet control, physical exercise, weight loss, smoking cessation, drinking in moderation, mind-body exercise and herbal medicines can facilitate unlocking of innate healing potentials in T2D patients to help them defeat the disease.

New ideas and technologies emerged in both modern and traditional disciplines have resulted in some novel smart options to combat T2D, such as the regulating shoes for self-healing [35]. The regulating shoes for self-healing restores innate healing potentials in T2D patients by combining herbal medicines and magnetic sheets in a walking shoe [35]. Such a combination of herbal medicines and magnetic sheets collaboratively acts on various pathogenic mechanisms of T2D leading to clinical satisfaction in healing T2D.

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