

Sujok Therapy For The Treatment Of Type 2 Diabetes

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Abstract: Background: Diabetes mellitus is one of the oldest characterized diseases in the world. By today diabetes has become a worldwide epidemic that is associated with the modern lifestyle, increased stress, improper nutrition or eating behaviours and lack of physical activity. Material And Methods: 330 patients aged 30-76 years were administered to the study. All the metabolic marker analyses were conducted using an automated clinical chemistry analyzer (Dimension Xpand Plus, Siemens Healthcare, Germany). Random Plasma glucose levels (RPG) was taken 2-4 hours post meal. Sujok treatments were carried out by certified Sujok Therapists according to the Diabetes treatment protocol (ISA R&D center, Nagpur, India). Result: A major decrease in plasma glucose levels was recorded 30 minutes after the initial Sujok treatment. Following 5 treatments, 70% of the patients responded in decrease in glucose levels (52.45 ± 10.49 mg/dl) while 24% increase in glucose levels (22.2 ± 7.4 mg/dl), 6% of the patients did not show any change in glucose plasma levels. HbA1c was monitored in the patients that undergone 3 months of Sujok treatment. A considerable decrease in the percent of HbA1c was observed in the plasma of treated patients ($5.53 \pm 0.98\%$), in comparison to the initial level measured prior to the treatment procedure ($8.13 \pm 1.29\%$). Conclusion: This study is a pilot study to evaluate possible effect of Sujok therapy for the treatment of diabetes. Overall, it seems that Sujok therapy may decrease glucose levels and HbA1c levels. These results can support the efforts to develop improved therapeutic and preventive strategies for diabetes. A following research regarding the treatment of diabetes complications by Sujok therapy is currently running with promising results. [Yagil Z Natl J Integr Res Med, 2021; 12(6): 81-87]

Key Words: Sujok For Diabetes Mellitus, TIID, Diabetes Treatment, HbA1c, RPG, Random Plasma Glucose, Glycated Hemoglobin, Sujok Therapy, Seed Therapy, Correspondence

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Introduction: Diabetes mellitus is one of the oldest characterized diseases in the world. Described in the Ebers papyrus (1552 BCE, ancient Egypt) as “too much urine”¹. By today diabetes has become a worldwide epidemic that is associated with the modern lifestyle². Type 2 diabetes, though poorly understood, is known to be a disease characterized by an inadequate beta-cell response to the progressive insulin resistance that typically accompanies advancing age, inactivity, and weight gain³.

The disease accounts for substantial morbidity and mortality from adverse effects on cardiovascular risk and disease-specific complications such as blindness and renal failure⁴. The increasing global prevalence of type 2 diabetes is tied to rising rates of obesity — in part a consequence of social trends toward higher energy intake and reduced energy expenditure⁵. However, the mechanisms that underlie individual differences in the predisposition to obesity remain obscure. In the

recent years there has been considerable increase in the incidence of diabetes type II that is generally accepted as the “epidemic of the century”⁶. Current medical approach defines the disease as chronic and incurable therefore the treatment is palliative, symptomatic and does not try to restore the patient to a healthy state.

By today it is widely accepted that the general idea regarding diabetes mellitus as endocrine disease that involves merely the pancreatic islets and insulin is not accurate. Recent studies show that only 50% from glucose absorption is insulin dependent⁷. Moreover, it seems that there are many other factors such as leptin, incretins⁸ and others⁹ that play essential role in the regulation of glucose metabolism. Since its development in China around 2,000 B.C., acupuncture has become worldwide in its practice¹⁰. Although Western medicine has treated acupuncture with considerable skepticism¹¹, a broader worldwide population has granted it acceptance. For instance, the World Health Organization endorses

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acupuncture for at least two dozen conditions¹² and the US National Institutes of Health issued a consensus statement proposing acupuncture as a therapeutic intervention for complementary medicine¹³. Sujok therapy is a recent form of complementary medicine that combines ancient knowledge and modern logic¹⁴.

This modern combination created an extremely powerful tool for healing of mind and body^{15,16,17,18}. In a short time, Su Jok therapy, thanks to its simplicity of application and effectiveness has spread and gained recognition worldwide¹⁹.

There are ample data of application of Su Jok therapy for treating internal diseases^{20,21}, but only a rather narrow circle of specialists devoted their research efforts to study the effectiveness of this method in treatment of endocrine disorders²².

Therefore in this study we decided to explore possible effect of the use of Sujok therapy on glucose levels and levels of glycated hemoglobin (HbA1c) in diabetic patients.

Our data suggests beneficial effect of Sujok therapy for the treatment of type 2 diabetes.

These results can support the efforts to develop improved therapeutic and preventive strategies for diabetes.

Material & Methods: Study Group: 330 patients aged 30-76 years were administered to the study. All patients signed consent form for participating in the research according to WHO regulations.

Medical record including blood pressure, medical history and prescribed drugs was noted. During treatment period, there was no increase in prescription drug consumption.

Patients continued to measure glucose levels at home and in few cases corrected insulin amounts in order to prevent hypoglycemia.

Crude data was analyzed including both patients that take oral medication, insulin therapy and diabetic patients without medical treatments.

Plasma Glucose Levels: Blood test was conducted twice for each patient. For each blood test, fasting venous blood sample was obtained from

the patient by venipuncture to evaluate the whole blood level of metabolic markers: blood glucose, and hemoglobin A1c (HbA1c).

All the metabolic marker analyses were conducted using an automated clinical chemistry analyzer (Dimension Xpand Plus, Siemens Healthcare, Germany. Random Plasma glucose levels (RPG) was taken 2-4 hours post meal. Fasting Plasma Glucose levels (FPG) was taken 12 hours post meal.

Sujok Treatments: Sujok treatments were carried out by certified Sujok Therapist according to the Diabetes treatment protocol established by the International Sujok Association research and development center (ISA R&D center, Nagpur, India).

The first 5 treatments were done on a daily basis or every other day. Treatment for 3 months period was carried away once a week. Patients were instructed to keep stimulation of the correspondence point at home by Sujok seed therapy.

Data Analysis: Data was collected and analyzed by Office excel software (Microsoft, USA).

Results: Sujok therapy can reduce plasma glucose levels in TIID patients, 30 minutes after the initial treatment. In ISA R&D center, Nagpur, India, 330 TIID patients were treated for diabetes with Sujok therapy.

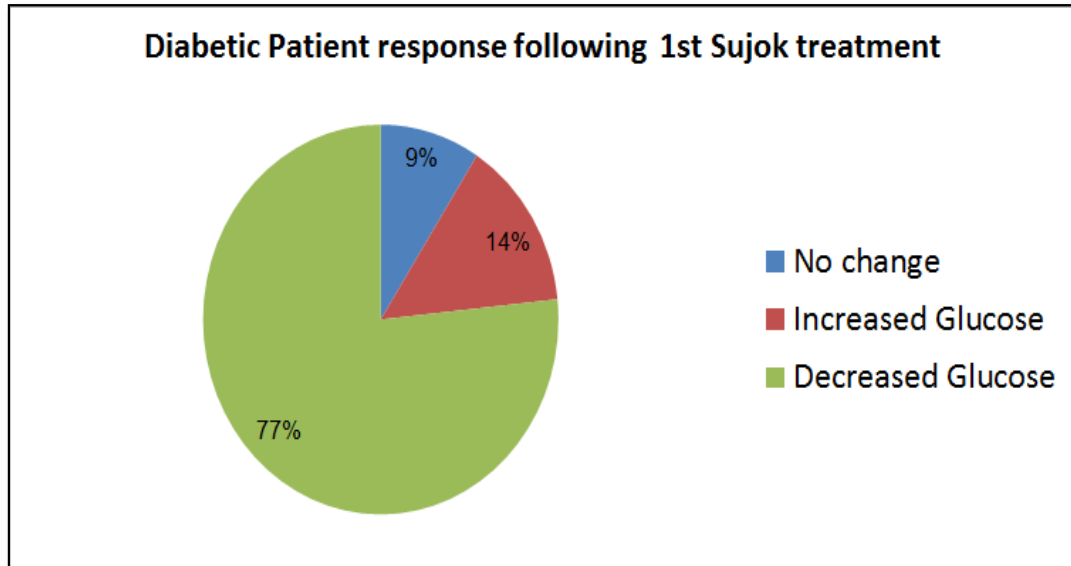
Patients were administered by special administration team, interviewed and evaluated as candidates for treatment. Blood pressure and Plasma glucose levels were analyzed as described in the materials and methods section.

In order to evaluate the effect of Sujok therapy on plasma glucose levels, patients were treated by Sujok therapy and glucose levels were analyzed before and 30 minutes after treatment.

As shown in figure 1, out of 330 patients, 76% reacted to the first Sujok treatment by a considerable decrease in plasma glucose levels (94.92 ± 2.47 mg/dl, figure 2) while only 9% did not react to the treatment.

Interestingly, 14% of the patients reacted to the treatment by increase (!) in the glucose levels (30.78 ± 6.78 mg/dl, figure 2).

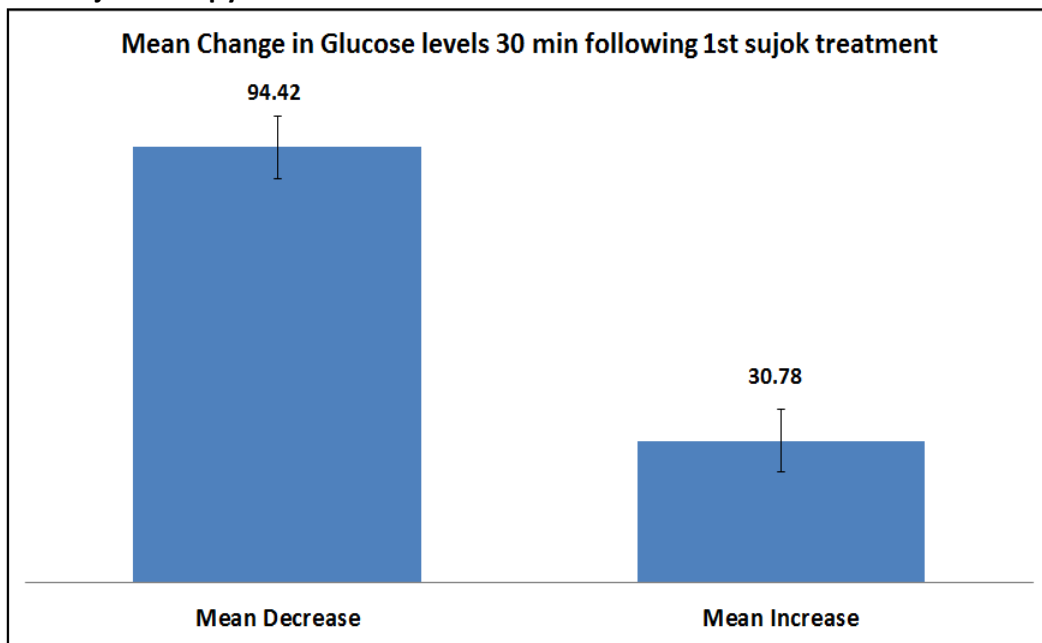
Figure 1: Immediate Response To Sujok Treatment



330 TIID patients were administered and random blood glucose levels were monitored before and after the treatment. 77% of the patients

responded with decreased glucose levels while 14% responded with increase of blood glucose levels.

Figure 2: Sujok Therapy Decreases Blood Glucose Levels As Soon As 30 Minutes After Treatment



330 TIID patients were administered and random plasma glucose levels were monitored before and after the treatment.

A major decrease in plasma glucose levels was recorded 30 minutes after the treatment.

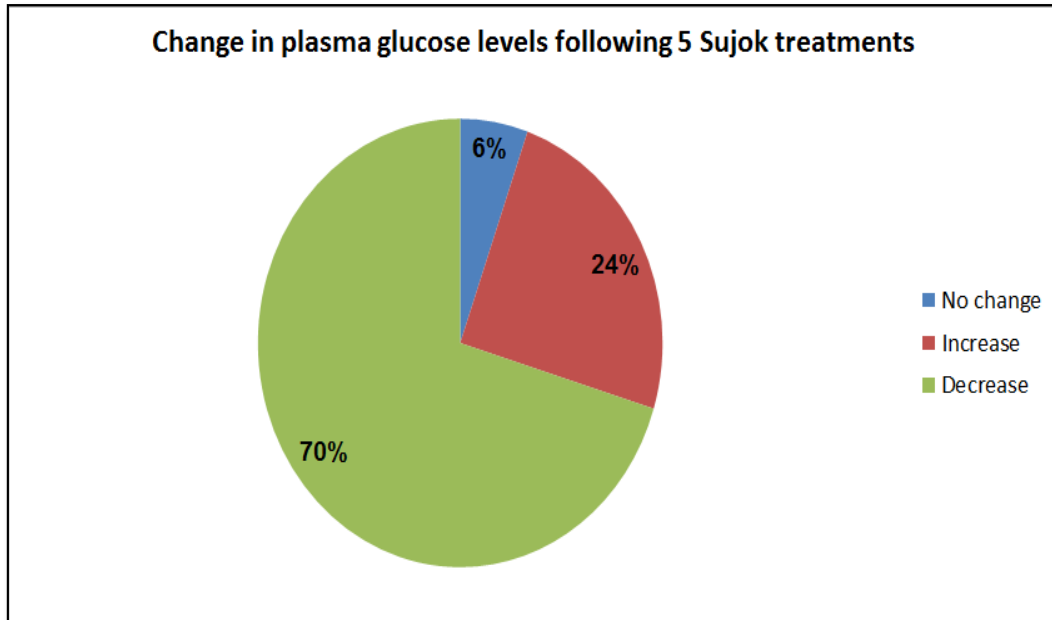
Glucose levels are measured in mg/dl as discussed in the materials and methods section.

Sujok Therapy Decreases Plasma Glucose Levels After 5 Constitutive Treatments: In order to check whether the glucose lowering effect of Sujok

therapy is continuous rather than transient, blood Plasma glucose levels were compared between the first treatment and the 5th treatment.

As shown in figure 3, 70% of the patients responded in decrease in glucose levels (52.45 ± 10.49 mg/dl) while 24% increase in glucose levels (22.2 ± 7.4 mg/dl), 6% of the patients did not show any change in glucose plasma levels (Figure 4). These results suggest that a session of 5 treatments is not enough in order to bring balance to TIID patients.

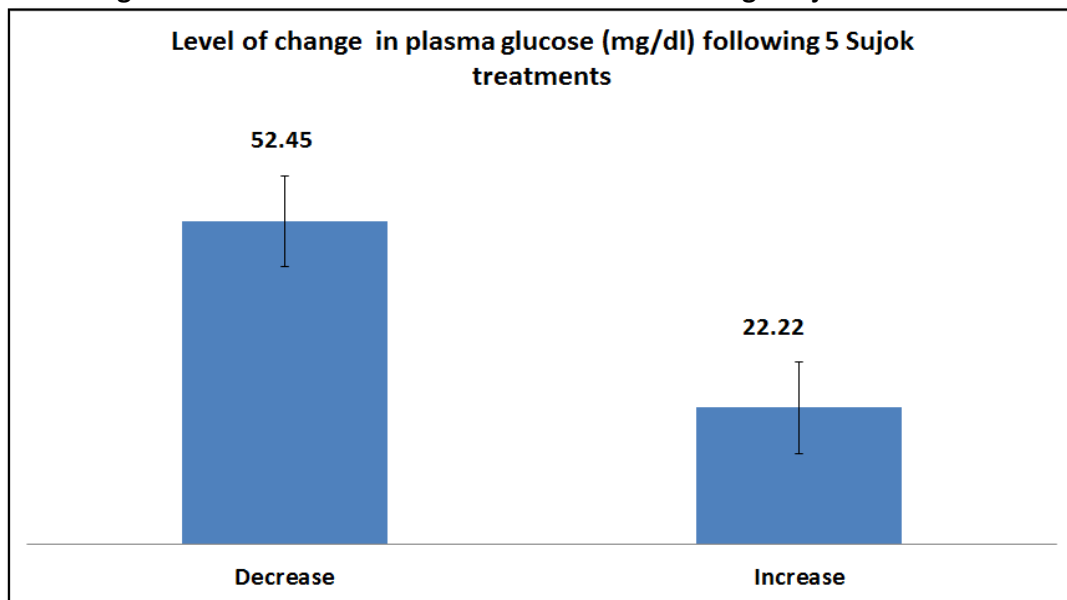
Figure 3: Percent Of Change In Glucose Levels Following 5 Sujok Treatments



Random plasma glucose levels were monitored in 37 patients before and after 5 Sujok treatments. In 70% of patients glucose levels decrease in

average of 52.45 mg/dl while in 25% glucose levels increased by average of 22.22 mg/dl.

Figure 4: Decrease In Plasma Glucose Levels Following 5 Sujok Treatments



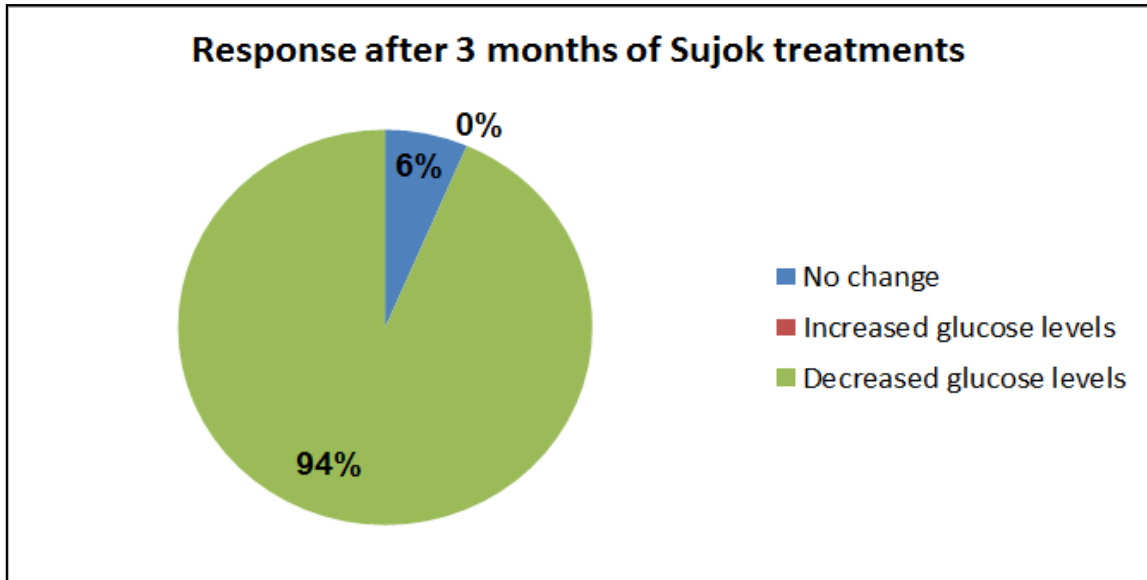
Random plasma glucose levels were monitored in 37 patients before and after 5 Sujok treatments. In 70% of patients glucose levels decrease in 52.45 mg/dl while in 25% glucose levels increased by 22.22 mg/dl.

In order to evaluate the efficiency of Sujok therapy in the treatment of diabetes, 51 T1ID patients were followed for a period of 3 months (12-18 treatments). Fasting plasma glucose levels were analyzed and compared between the first and the last treatment. As shown in figure 5, following 3 months of Sujok treatment 94% of the patients reacted in a considerable decrease in fasting plasma glucose levels (69.7±8.56 mg/dl).

Sujok Therapy Treatment Over 3 Months Induces Considerable Decrease In Plasma Glucose Levels: Diabetes is a chronic disease. Since the process of development of this disease is slow and many factors are involved, changes in the metabolic pathways that are involved in this condition is naturally, not immediate.

After 3 months treatments no patients have shown increase in glucose levels and only 6% of the patients did not react at all.

Figure 5: Effect Of Sujok Therapy After 3 Months Of Treatments



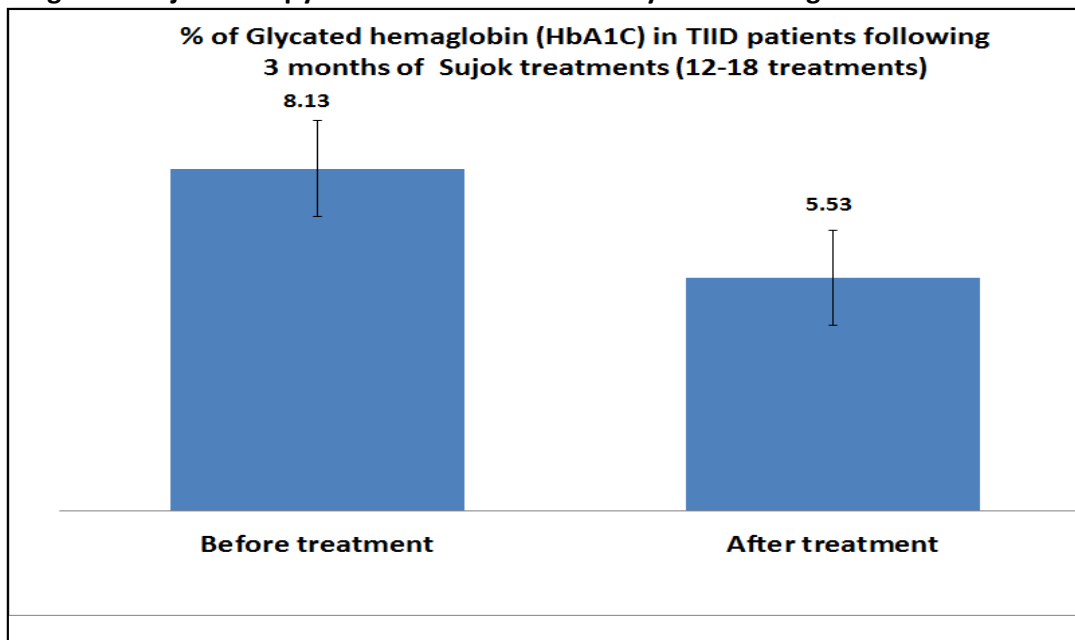
51 patients were monitored 3 months after initial treatment. Fasting plasma glucose level was monitored and compared to the initial levels. 94% of the patients reacted in considerable decrease in plasma glucose levels as compared with measurement 3 months before.

levels over the previous months prior to the measurement. In diabetes mellitus, higher amounts of glycated hemoglobin, indicating poorer control of blood glucose levels, have been associated with cardiovascular disease, nephropathy, and retinopathy.

Sujok Therapy Decreases HbA1c Levels: Glycated hemoglobin (HbA1c) is formed in a non-enzymatic glycation pathway by hemoglobin's exposure to plasma glucose. HbA1c is used to evaluate diabetes severity. Normal levels of glucose produce a normal amount of glycated hemoglobin. As the average amount of plasma glucose increases, the fraction of glycated hemoglobin increases in a predictable way. This serves as a marker for average blood glucose

It has been shown that monitoring HbA1c in TIID patients may improve outcomes. Therefore, HbA1c was monitored in the patients that undergone 3 months of treatment. As shown in figure 6, a considerable decrease in the percent of glycated hemoglobin was observed in the plasma of treated patients ($5.53 \pm 0.98\%$), in comparison to the initial level of glycated hemoglobin that was measured prior to the treatment procedure ($8.13 \pm 1.29\%$).

Figure 6: Sujok Therapy Decreases The Levels Of Glycated Hemoglobin In TIID Patients



51 patients were analyzed, following 3 months of initial treatment. Glycated hemoglobin levels were monitored and compared to the initial level that was measured before the first treatment.

Discussion: By today, it is generally accepted that Sujok therapy is one of the most advanced forms of complementary medicine. Having the roots back in the era of the yellow emperor Huang di, 5000 years ago, the method combines ancient wisdom and modern discoveries originated by late Prof. Park Jae Woo. As suggested by Galileo Galilei in the 17th century, science means public, measurable and repeatable phenomena.

Indeed, various scientific works have been done during the past 30 years regarding Sujok efficacy and efficiency in treating numerous ailments. However, most of the researches had limited number of subjects that usually came from different backgrounds.

This work is the first work that has been assessing the efficacy, efficiency and safety of treating T1D by Sujok therapy. Our observations suggest that Sujok therapy is effective in lowering blood glucose levels even from the first treatment. 30 minutes after treatment a mean decrease of 94.92 ± 2.47 mg/dl was observed in 77% of the patients. The decrease in plasma glucose levels 30 minutes after treatment continued over consecutive 5 treatments. Moreover, monitoring glucose levels over 5 sujok treatments has demonstrated a decrease of 52.45 ± 10.49 mg/dl in the baseline of glucose levels measured before treatment.

This observation implies that Sujok therapy may not only used as palliative care to reduce blood glucose as insulin or oral medications but can stimulate the body to change mechanisms that control long term glucose homeostasis. In order to further characterize Sujok therapy effect on blood glucose homeostasis, fasting plasma glucose levels were measured 3 months after initial treatment and were compared to the values before treatment procedure started. 94% of the patients showed a decrease of 69.7 ± 8.56 mg/dl in their fasting glucose levels.

In addition, glycated hemoglobin levels also considerably decreased from $8.13 \pm 1.29\%$ to $5.53 \pm 0.98\%$, supporting the observation of long term effect and change in glucose homeostasis.

Interestingly, following the first treatment, 14% of the patients have showed increase in plasma glucose levels of 30.78 ± 7.4 mg/dl 30 minutes after treatment. The effect of increase in blood glucose levels was repeated in 24% of the patients over a period of 5 consecutive treatments and glucose levels were elevated to 22.22 ± 7.4 mg/dl.

This effect might be attributed to metabolic changes in the body during the adaptation of the body to the new equilibrium.

However, 3 months after treatment, 94% of patients include patients that had increase in glucose levels, have decreased glucose levels with a mean of 69.7 ± 8.56 mg/dl. Combination with the decrease in glycated hemoglobin levels in these patients we can conclude that Sujok therapy has a glucose lowering effect but the mechanisms are yet to be determined.

Conclusion: This study is a pilot study that was addressed in order to evaluate possible effect of Sujok therapy for the treatment of diabetes. Over all it seems that Sujok therapy may decrease glucose levels and glycated hemoglobin levels. These results can support the efforts to develop improved therapeutic and preventive strategies for diabetes.

A further research and in depth study is needed in order to determine the mechanisms by which the Sujok treatments exert its effect. In the clinical levels a further optimization of treatment protocols, intervals between treatments, combination with other mind body techniques, physical activity and nutrition should be carried out.

We believe that this study is just an opening point for a change in the approach towards diabetes from a chronic and incurable disease to a temporary condition that with correct approach can be attenuated.

A following research regarding the treatment of diabetes complications by Sujok therapy is currently running with promising results.

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