Results of the clinical study of Jerusalem artichoke (Kikuimo) essence

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Case #1: F.T. 32 years old, male patient with diabetes, hypertension and hyperlipemia.

On December 28, the final consultation day of 1999, the patient first visited our hospital due to common cold and urinalysis showed sugar (4+) in the urine. He was instructed to undergo diabetes tests early in the new year and visited our hospital on January 6, 2000. The blood test revealed that he had diabetes with fasting blood sugar level of 211 mg/dl and HbA1c of 9.9%. For further examination, a 75 g oral glucose tolerance test (OGTT) was performed and his fasting blood sugar levels measured at the start of the test, 30, 60, 120 and 180 minutes after the test were 166 mg/dl, 235 mg/dl, 291 mg/dl, 352 mg/dl and 265 mg/dl, respectively. When we explained the results of the glucose tolerance test to the patient on January 21 and asked him about future treatment strategies he wanted to adopt, he preferred the treatment with functional foods to that with western drugs and started to receive Noscal, an insulin resistance lowering drug, and 50 ml of Kikuimo essence once daily orally. The blood was drawn on February 4, two weeks after the start of treatment, and fasting blood sugar level was markedly reduced to 82 mg/dl. As a precaution, the blood was also drawn on February 18 and the blood sugar level was 88 mg/dl and HbA1c was 7.4%. After that, the patient made satisfactory progress and when a glucose tolerance test was performed again on March 3, one and a half months after the start of treatment, the fasting blood sugar levels measured at the start of the test, 30, 60, 120 and 180 minutes after the test were, respectively, 63 mg/dl, 122 mg/dl, 127 mg/dl, 109 mg/dl and 84 mg/dl and the results were within the normal range. On March 31, HbA1c was 5.8%, which was within the normal range, and the HbA1c level was well controlled. Since Noscal was reported to cause hepatic dysfunction and voluntary restraints were imposed on its release, Noscal was discontinued on March 31. According to the latest data, the fasting blood sugar level is 95 mg/dl and HbA1c is 5.2% at the test on May 12 and the patient's diabetes is very well controlled.

Case #2: H.S. 58 years old, female patient with diabetes, hypertension and hyperlipemia.

The patient developed thirst about the middle of January 2000 and when she visited a neighboring physician, she was diagnosed with hyperglycemia. On February 16, the patient visited our hospital. Urinalysis showed sugar (4+) and the blood test revealed that she had diabetes with fasting blood sugar level of 217 mg/dl and HbA1c of 11.3%. Since the patient wanted to receive treatment with drugs other than western drugs, she started to receive 50 ml of Kikuimo essence once daily orally from that day. When she visited our hospital for hearing the results of the test on February 25, she told us that she felt better and was in good health.

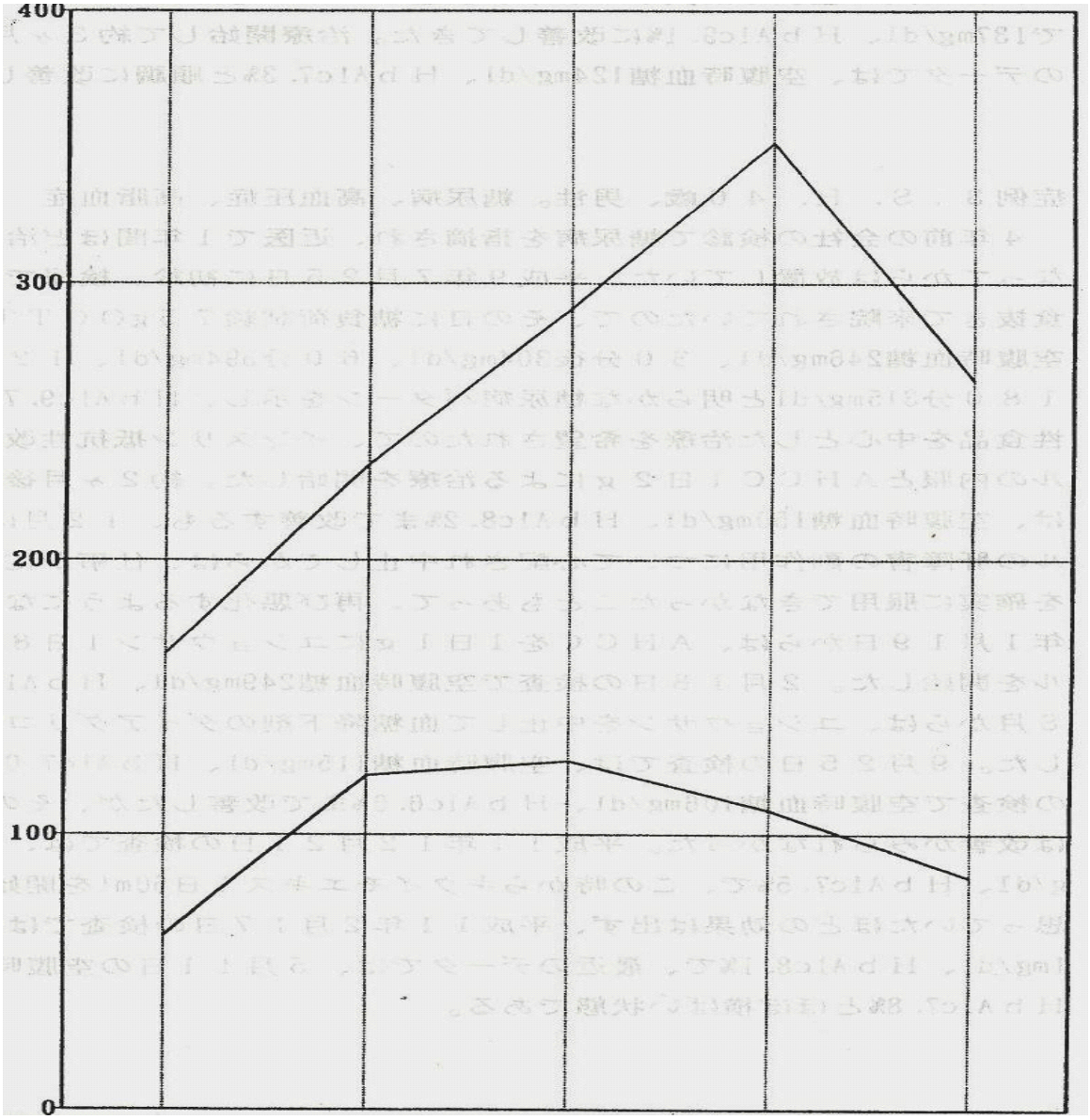
On March 28, about one and a half months after the first visit, her thirst disappeared and the blood sugar level and HbA1c were reduced to 137 mg/dl and 9.1%, respectively, when measured simply by using Glutest. According to the data obtained on May 13, about three months after the start of treatment, the fasting blood sugar level was 124 mg/dl and HbA1c was 7.3% and the patient made satisfactory progress.

Case #3: S.H. 46 years old, male patients with diabetes, hypertension and hyperlipemia.

The patient was found to have diabetes during the company's medical checkup four years ago. He was treated by a neighboring physician about for one year and after he got better slightly, he stopped receiving treatment. He first visited our hospital on July 25, 1997. Urinalysis showed sugar (4+) in the urine and since the patient came to our hospital without breakfast, a 75 g oral glucose tolerance test (OGTT) was performed on that day. The fasting blood sugar levels were, respectively, 246 mg/dl, 304 mg/dl, 394 mg/dl, 387 mg/dl and 315 mg/dl at the start of the test, 30, 60, 120, 180 minutes after the test and the patient showed a diabetic pattern in the OGTT, with HbA1c of 9.7%. The patient wanted to receive functional food-based treatment and started to receive oral Noscal, an insulin resistance lowering drug, and 2 g of AHCC once daily. On September 19, about two months after the start of administration, the fasting blood sugar level and HbA1c were reduced to 150 mg/dl and 8.2%, respectively. However, after the patient discontinued Noscal because of the fear of the adverse drug reaction of hepatic dysfunction associated with its use in December, his diabetes worsened again because he was too busy with his work to remember to take AHCC. From January 19, 1998, the patient started to receive 1 g of AHCC and 8 tablets of Yu Xiao San once daily for controlling his diabetes. When the test was conducted on February 18, the fasting blood sugar level was 249 mg/dl and HbA1c was 8.9%. Yu Xiao San was discontinued in August and the patient received two tablets of DIAGLICO, a hypoglycemic agent, once daily. At the test on September 25, the fasting blood sugar and HbA1c levels were reduced to 115 mg/dl and 7.0% and further reduced to 106 mg/dl and 6.6%, respectively, when tested on October 22; however, no further improvement was observed after this point of time. When the test was performed on December 21, 1999, the fasting blood sugar and HbA1c levels were 115 mg/dl and 7.5%, respectively, and from this time, the patient started to receive 50 ml of Kikuimo essence once daily. However, the expected effect was not obtained and the fasting blood sugar and HbA1c levels were, respectively, 241 mg/dl and 8.1% when tested on February 17, 1999. According to the latest data, the fasting blood sugar level is 234 mg/dl and HbA1c is 7.8% on May 11 and the results stay about the same.

Changes in OGTT results after administration of Kikuimo essence over time (Case #1)

(Unit: mg/dl)



	Blood sugar level before administration	30 minutes after administration	60 minutes after administration	120 minutes after administration	180 minutes after administration
－January 14, 2000	166	235	291	352	265
－March 3, 2000	63	122	127	109	84

Case #2: 58 years old, female patient with diabetes, hypertension and hyperlipemia.

Results of the clinical study of Kikuimo at JIKEI CLINIC (essence)

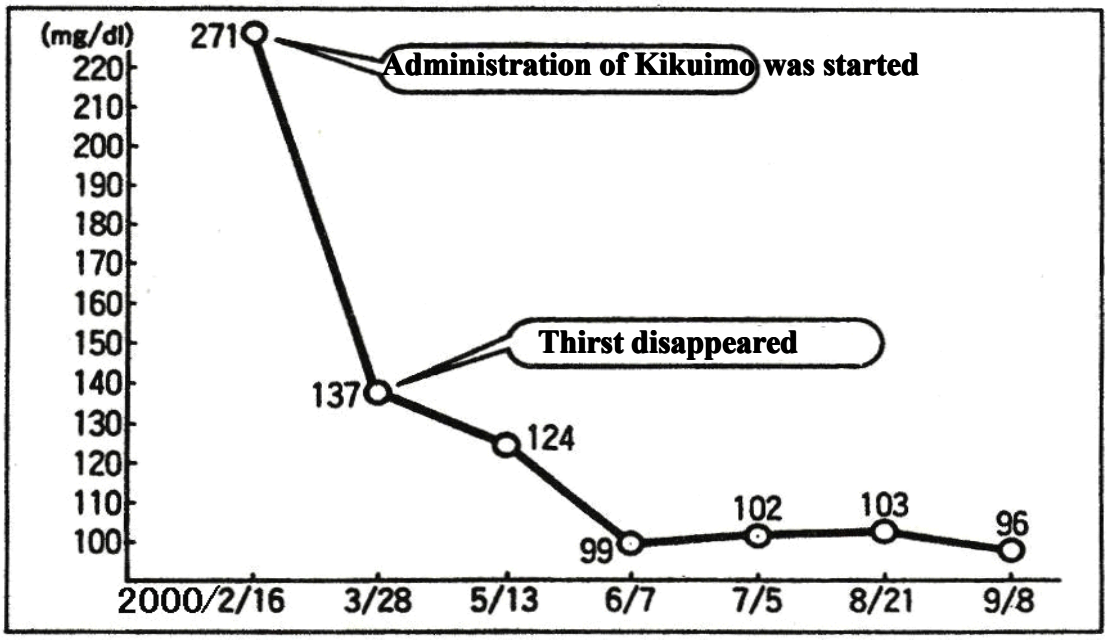


Figure 1 Changes in blood sugar levels over time Female aged 58 (treated only with Kikuimo)

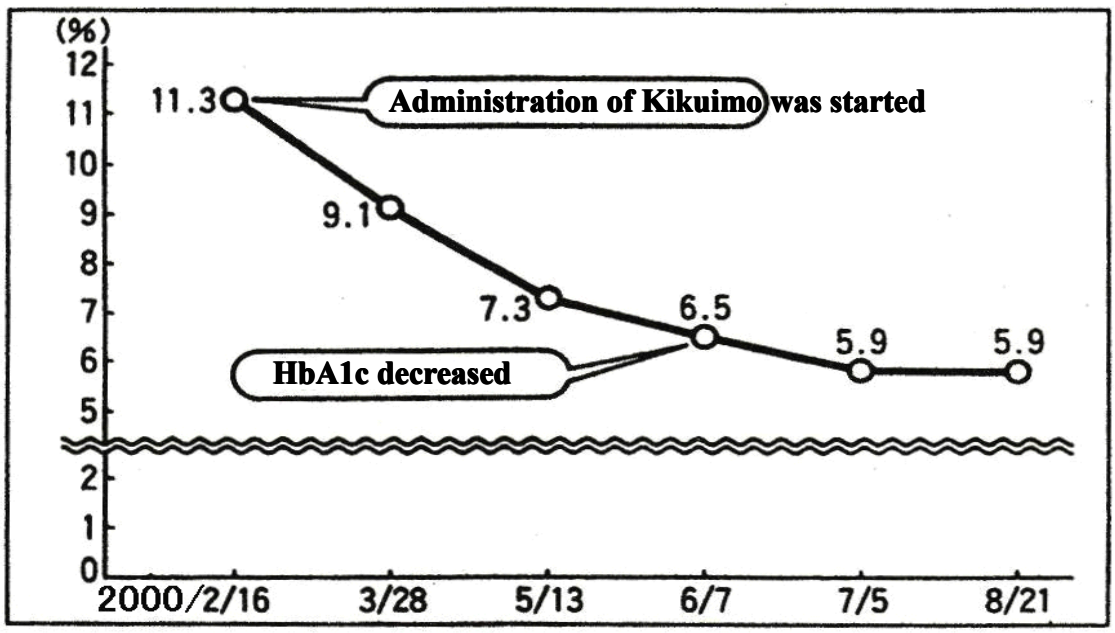


Figure 2 Changes in HbAc1 levels over time

A test to show the blood sugar levels for the past one to two months (the normal range is 4.3% to 5.8%)