

Anti-hyperglycemic effect of the rhizome of an Indian herb CS0361 in type 2 diabetes mellitus

B.P. Sarma

Government Ayurvedic College and Hospital, India

Abstract

The rhizome powder of an Indian herb (presently coded as CS0361) mostly available in the eastern Indian states including Assam, is widely used as folkloric anti-diabetic medicine. The anti-diabetic activity of the plant material has been confirmed in animal models. In the present study CS0361 has been tested for its anti-hyperglycemic effect on type 2 diabetic subjects. A single blind clinical trial was conducted on 30 subjects. Rhizome powder (4g) in warm water was given twice daily 30 mins before meal for 9 weeks. Blood glucose was measured by glucose-oxidase method and HbA_{1c} was measured by ion exchange chromatography. Paired 't' test was performed to evaluate the statistical significance.

Age of the subjects was 49.9 ± 2.5 years ($M \pm SD$) and their BMI (kg/m^2) was 23 ± 2.63 at the start and 22.4 ± 2.5 at the end of the study. The CS0361 showed significant glucose (mmol/l) lowering effect on fasting condition compared to the basal state (9.48 ± 2.16) after 3rd week (8.56 ± 1.75 , $p < 0.001$), 6th week (7.92 ± 1.91 , $p < 0.001$) and 9th week (8.08 ± 1.58 , $p < 0.001$). Similar trend was also observed in the postprandial condition [basal vs 3rd week (13.5 ± 1.87 vs 11.97 ± 1.59 , $p < 0.001$), 6th week (11.52 ± 1.57 , $p < 0.001$) and 9th week (11.13 ± 2.18 , $p < 0.001$)]. Baseline and final HbA_{1c} ($M \pm SD$) levels were 7.54 ± 1.07 and 6.67 ± 0.88 respectively, $p < 0.001$.

The data indicate that CS0361 possesses anti-hyperglycemic agents, which needs further investigation regarding chemical characterization and mechanism of action.

Biography

Bishnu Prasad Sarma has completed his M.D from Banaras Hindu University and Ph.D from Gauhati University. His Ph.D thesis was adjudged as the best thesis for that academic year. A physician of repute Dr. Bishnu Prasad Sarma is the winner of Visista Chikitsa medal. Presently associate professor of Kayachikitsa in Govt. Ayurvedic College, he has published more than 20 scientific papers in reputed journals and is a ANRAP fellow.