

Combined effect of *Syzygium Cumini* seed extract with Acarbose ameliorates glucose intolerance and oxidative stress in high fat diet induced obesity

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Obesity plays a vital role in the insulin resistance syndrome, which includes hyperinsulinemia and type 2 diabetes mellitus. The aim of the present investigation was to evaluate the effect of *Syzygium cumini* seed kernel extract (SSKE) in combination with acarbose in high fat diet fed induced obese rats. OGTT, single and multiple dose study was carried out. Rats were divided into different groups. Group I fed with normal pellet diet and group II was fed with high fat diet (HFD), considered as diabetic control. Groups III to V were fed with HFD plus SSKE, HFD plus acarbose and HFD plus SSKE and acarbose respectively. Treatment schedule started along with the diet for 10 weeks. Anti-oxidative enzymes and histopathology of the pancreas was carried out. Number of beta cell in the islets was also evaluated. OGTT was also performed at the end of the treatment period. Body weight was recorded throughout the treatment period. Diabetic rats showed decrease in antioxidant enzymes and raise in glucose intolerance when compared with normal control. The combined therapy of SSKE and acarbose significantly restored the antioxidant enzymes towards normal. Impaired glucose tolerance in this group was brought back to normal. Histopathological studies showed the presence of increase in beta cell in islets of pancreas. All the above results suggest that treatment with the combination of SSKE and acarbose might be useful in preventing the development of type 2 diabetes mellitus.

Biography

Shakti Singh, research scholar has completed his Bpharmacy from Amar Saheed Baba Ajit Singh Jujhar Singh Memorial College of Pharmacy and Mpharmacy from Krupanidhi College of Pharmacy. Has participated in Participated in poster presentation on Antinociceptive effect of Terminalia Bellirica Fruit extract in Diabetic Neuropathic Pain in Rats in IPSCON 2011. Attended workshop on "Role of Intellectual Property Rights in Pharmaceutical Industry" in association with IIPTA on 30th & 31st March 2012.