

ABSTRACT

Diabetes mellitus is included in one of the heterogenous group of metabolic disorders of multiple aetiology which earns its term when there is a significant deficiency in insulin secretion, augmentation in glucagon secretion (persistent hyperglycaemia) and a lower sensitivity of cells towards insulin secreted from pancreatic cells. As nanotechnology is becoming more leading scientific technique that presents sensing technologies and miniature to detect disease accurately within time. It is also being employed to make different nanoparticles which are offering less harm to treat diseases. The silver nanoparticlaes were synthesized from *Allium cepa*.(Onion) extract. Both silver and onion had been reported with anti-diabetic activity. Tests were done to confirm the formation and multiple characteristics of silver nanaoparticles which include UV-VIS spectrophotometer, photoluminescence (PL), Fourier transform infrared spectroscopy (FT-IR), Energy Dispersive X-ray (EDX) microanalysis, and Scanning electron microscope (SEM). The trial was of two weeks after the formation of silver nanaoparticles. Five groups of albino mice were subjected under trial. 1st group was -ve control group which was non-diabetic, 2nd was +ve control group which was untreated diabetic group. 3rd was treated group with low dose of silver nanoparticles, 4th was treated group with medium dose of AgNPs and 5th was treated group with high dose of AgNPs. The silver nanoparticles showed positive results against diabetes. The low dose of AgNPs showed a slight decrease in the blood sugar level as compared to diabetic untreated mice group. While on the other hand, medium dose of AgNPs elicited a significant decrease in blood sugar level as compared to untreated diabetic mice group. High dose showed not much significant decrease. The decrease in body weight of mice group of medium dose of AgNPs was also observed while in others wasn't enough prominent. Blood serum creatinine and blood serum urea levels were also calculated and observed for silver nanoparticles. Histological tests of kidney were performed.