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Alloxan induced diabetic rabbits as animal model for diabetes

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Diabetes mellitus can be chemically or surgically induced in different animal species. Alloxan monohydrate is a common drug used for developing experimental diabetes in animals, as streptozotocin, though less toxic than alloxan is considerably costlier. This study aimed to create diabetic animal models and to provide an exact and detailed account of alloxan induced diabetes in rabbits. Twenty eight New Zealand white rabbits weighing 1 kg to 1.8 kg were obtained and kept at the animal house of the department. They were administered with varying doses of sterile solution of 5 % alloxan monohydrate in normal saline at the dose rate of 80-120 mg/kg body weight intraperitoneally, in order to induce diabetes. The blood glucose levels were estimated on seventh, fifteenth, twentieth, twenty fifth and thirtieth day after alloxan administration by using blood glucose determination kit. Rabbits having blood glucose levels 300 mg/dl or more were considered as diabetic. The dose rate of 100 mg/kg body weight was found to lower the rabbit mortality and more suitable as compared with a single standardized dose of 160mg/kg body weight suggested by Akhtar et al., (1982) and 80mg/kg body weight (Puri and Prabhu, 2002). It was therefore concluded that our proposed regime may be beneficial for future researchers aiming to develop similar diabetic animal models for various research purposes.

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