Effect of Lingzhi on Plasma Glucose Concentration

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Ganoderma lucidum, well-known as lingzhi, is claimed to have an anti-diabetic function. However, its clinical efficacy is still illusive. This study was to investigate whether the efficacy of lingzhi on reducing diabetic hyperglycemia is related to its time of administration. Streptozotocin (STZ)-induced diabetic mice were given a 2-week lingzhi supplementation either from 1 week prior to or 1 week after STZ injection. Mice received lingzhi treatment prior to STZ injection had significantly reduced fasting blood sugar, as well as increased plasma values of insulin and total antioxidant capacity. There was no significant change in glucose level in those STZ-treated mice which had lingzhi administration after established hyperglycemia. The results of this study suggest that lingzhi may act as an antioxidant to protect against STZ-induced pancreatic damage.

Key words: Ganoderma lucidum, Lingzhi, Diabetes mellitus, Hyperglycemia, Streptozotocin.

INTRODUCTION

Diabetes mellitus, the metabolic disorder characterized by hyperglycemia, has become prevalent worldwide. Since most of the currently available oral hypoglycemic agents usually have undesirable side effects1, many investigators turn to search novel hypoglycemic agents as alternative therapy from traditional medicine, which are usually of lesser toxicity. Ganoderma lucidum, a medicinal mushroom also well-known as lingzhi, has been widely used by the Chinese people not only for the amelioration of various diseases, such as hepatitis and selected cancers, but also for the lengthening of life span2. In addition, animal studies have found lingzhi may alleviate diabetic hyperglycemia by increasing insulin...