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Hypoglycemic Effects of *Chlorella pyrenoidosa* in Streptozocin-induced Diabetic Mice.
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Chlorella has been a popular foodstuff in Japan and Taiwan. Administration of *Chlorella* containing diet to animals showed some beneficial effects, e.g. lowered cholesterol levels in serum and in the liver and boosted immune function. In addition, acute administration of *Chlorella pyrenoidosa* produced a significant hypoglycemic effect in alloxanized rats. However, its acute effects on glucose and insulin response in streptozocin-induced animals are not known.

Mice received 60mg/kg (i.p.) of Streptozocin (STZ) in citrate buffers (10 mM, pH 4.8) as STZ mice or buffer only as control mice. Basal blood glucose (BGL): blood glucose measured in samples of tail vein blood collected 60 min prior to any treatment and at 0, 30, 60, 90 and 120 min thereafter. Insulin sensitivity test: both STZ and control mice were treated with 100 mg/kg of *Chlorella pyrenoidosa* (oral) 60 min prior to soluble insulin (2.5 IU/kg, i.p.) and at 60 min intervals thereafter.

The BGLs in STZ mice were significantly suppressed at 30, 60, and 90 min (150 ± 27 , 164 ± 45 , 133 ± 28 mg/dL accordingly) after the acute treatment of *Chlorella* compared to that at -60 min (302 ± 39 mg/dL). In normal mice, *Chlorella* produced a significant but transient decrease on BGL at 90 min (82 ± 7 , $p < 0.05$ *t*-test, 111 ± 8 mg/dL at -60 min) after the treatment. *Chlorella* also enhanced the hypoglycemic effects of exogenous insulin in STZ mice. This enhancement was maintained up to 240 min (176 ± 43 , 317 ± 34 mg/dL at -60 min) after the insulin treatment. The same treatment did not produce significant difference in normal mice (137 ± 7 at -60 min and 133 ± 12 mg/dL at 240min).

The current data show that acute *Chlorella pyrenoidosa* administration ameliorates hyperglycemic status of STZ diabetic mice that can be maintained for as long as 3 hours after the treatment. Chronic *Chlorella pyrenoidosa* intake may have a role in assisting blood glucose control in diabetes. Further studies on this issue are undergoing.

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