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Suppression of glucose absorption by extracts from the leaves of *Gymnema inodorum*.

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Abstract

Gymnema sylvestre (GS) is one of the Asclepiad strains that grows in South-east Asia. Their therapeutic effects for treating diabetes mellitus, rheumatic arthritis and gout have been well known for a long time. However, the problem is that GS suppresses sweetness and tastes bitter. For this study, we chose *Gymnema inodorum* (GI) instead of GS, since it has an advantage that it does not suppress sweetness nor is it bitter in taste. In this paper, effects of glucose availability of some saponin fractions (F-I to F-IV) extracted from GI leaves, which were obtained by high-performance liquid chromatography were studied on a high K(+)-induced contraction of guinea-pig intestinal smooth muscle, O₂ consumption on guinea-pig ileum, glucose-evoked transmural potential difference (Δ PD) of guinea-pig everted intestine and blood glucose level in glucose tolerance tests on rats. The extracts of GI leaves suppressed the intestinal smooth muscle contraction, decreased the O₂ consumption, inhibited the glucose evoked-transmural potential, and prevented the blood glucose level. Our studies suggest that the component of GI inhibits the increase in the blood glucose level by interfering with the intestinal glucose absorption process.

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