Hypoglycaemic activity of Bixa orellana extract in the dog.


Source

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Abstract

In West Indian folklore, a variety of plants are used for medicinal purposes. One such plant, Bixa orellana (annatto), is commonly used in the treatment of diabetes mellitus. Preliminary studies have shown that a crude annatto seed extract exhibited either glucose lowering or hyperglycaemia-inducing activity depending on how it was further manipulated. This present investigation sought to determine the effects of the glucose-lowering extract on C-peptide and streptozotocin-induced diabetic dogs. This annatto extract was found to decrease blood glucose levels in fasting normoglycaemic and streptozotocin-induced diabetic dogs. In addition, in normal dogs, it suppressed the postprandial rise in blood glucose after an oral glucose load. Interestingly, the extract also caused an increase in insulin-to-glucose ratio in normal dogs. Increased insulin levels were not due to increased insulin synthesis as after 1-h residence time and half-hour postprandial, decreased C-peptide levels was observed. It was concluded that Bixa orellana (annatto) lowered blood glucose by stimulating peripheral utilization of glucose, and it is possible that this glucose-lowering extract might be of pharmacological importance.

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