EFFECT OF *CHRYSOPHYLLUM CAINITO L.* PLANT EXTRACT IN TREATMENT OF DIABETIC COMPLICATIONS

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ABSTRACT

Aldose reductase enzyme and AGEs plays an important role in diabetic complications such as neuropathy, nephropathy and retinopathy. The purpose of this study was to investigate plant extract for its inhibitory activity on rat lens aldose reductase (RLAR), rat kidney aldose reductase (RKAR) and advanced glycation end products inhibitory activity and to find out its influence in the treatment of various diabetic complications.

The Indian plant *Chrysophyllum cainito* Linn.(Sapotaceae) was studied for its inhibitory activity against rat lens AR and rat kidney AR by *in-vitro* inhibitory activity. In addition, *in vitro* advanced glycosylation end products inhibitory activity has been studied. The aldose reductase enzyme was extracted from rat lens (RLAR) and kidneys (RKAR) and the inhibitory activity of methanolic extract of *Chrysophyllum cainito* was quantified spectrophotometrically and Advanced glycosylation end products were measured by their intrinsic fluorescence.

The results showed that the tested plant extract possess significant AR and AGEs inhibitory actions in *in-vitro* may be due to presence of poly phenolic compounds. Therefore, this result suggests that AR inhibition may be affected by the structures of the phenols. However, therefore, more physiological studies of the *Chrysophyllum cainito* will be needed for the development of phyto medicine and functional food source.

These results suggest that *Chrysophyllum cainito* can be potent functional food ingredients as RLAR and AGE inhibitors and can be used as for diabetic complications.

Key words: aldose reductase, advanced glycosylation end products, diabetic complications and *Chrysophyllum cainito* Linn.