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Silymarin prevents diabetes?

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Abstract

Introduction: Vascular endothelial growth factor (VEGF) plays an essential role in development of diabetic macular edema (DME). While there is evidence suggesting that silymarin, a flavonoid extracted from *Silybum marianum*, could be useful for prevention and treatment of diabetic nephropathy, no studies have been conducted in diabetic retinopathy (DR). The aim of this study was to assess the effect of silymarin on disruption of inner blood retinal barrier (BRB), the primary cause of DME. **Materials and methods:** Human retinal endothelial cells (HRECs) were cultured under standard (۵.۵ mM D-glucose) and diabetogenic conditions (۲۵ mM D-glucose and ۲۵ mM D-glucose + recombinant vascular endothelial growth factor [rVEGF, ۲۵ mg/mL]). To assess cell viability, three concentrations of silymarin were tested (۳, ۶ and ۱۲ mg/mL). The effect of silymarin on HREC disruption was determined using a dextran (۷۰ kD) permeability assay. **Results:** No differences were found in the viability of HRECs treated with ۳ or ۶ mg/mL of silymarin as compared to untreated cells, but viability significantly decreased after using ۱۲ mg/mL. **Discussion:** Our results show that silymarin is effective for preventing hyperpermeability induced by diabetic conditions in HRECs.

Keywords: Silymarin; Diabetic retinopathy