

Study reveals that Indian gooseberry helps lower cholesterol

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Endothelial dysfunction is one of the early prognostic markers of atherosclerosis, and may eventually result in cardiovascular disease. It has been reported that endothelial dysfunction occurs in patients with diabetes much earlier than the clinical manifestations of vascular complications of the disease.

A study published in *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy* shows that the herbal plant amla may improve endothelial function and reduced biomarkers of oxidative stress. Amla (*Phyllanthus emblica*) is an herbal plant used widely in indigenous medicinal preparations used to treat a variety of diseases. It is also known as the Indian gooseberry or amlaki, and is used in Indian medicine as a cardiogenic.

The study compared the effects of an aqueous extract of Amla versus those of atorvastatin (a statin drug used to lower cholesterol) and placebo on endothelial dysfunction and biomarkers of oxidative stress in patients with type 2 diabetes. 80 patients were randomised to receive either Amla 250 mg twice daily, Amla 500 mg twice daily, atorvastatin 10 mg in the evening and matching placebo in the morning, or placebo twice daily for 12 weeks. The primary efficacy parameter was the change in endothelial function identified at baseline and after 12 weeks of treatment. Secondary efficacy parameters were changes in biomarkers of oxidative stress (malondialdehyde, nitric oxide, and glutathione), high sensitivity C reactive protein levels, the lipid profile, and glycosylated hemoglobin (HbA1c) levels.

The researchers found that treatment with Amla 250 mg, Amla 500 mg, or atorvastatin 10 mg produced significant reductions in endothelial function after 12 weeks of treatment compared with baseline. Compared with placebo, the mean reduction in total cholesterol was 10.89%, 14.3%, and 24.68% on Amla 250 mg, Amla 500 mg, and atorvastatin, respectively, and low-density lipoprotein cholesterol decreased by 15.88%, 20.15%, and 35%, respectively. There was a significant improvement in biomarkers of oxidative stress and systemic inflammation compared with baseline and placebo. Further, the treatments significantly improved the lipid profile and HbA1c levels compared with baseline and placebo. All treatments were well tolerated.

The researchers concluded that both atorvastatin and Amla significantly improved endothelial function and reduced biomarkers of oxidative stress and systemic inflammation in patients with type 2 diabetes mellitus, without any significant changes in laboratory safety parameters.