

Genistein treatment improves brachial artery flow-mediated dilation in postmenopausal women with metabolic syndrome

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Previous data have suggested that genistein could exert beneficial effects on endothelial function and on predictors of cardiovascular risk in healthy postmenopausal women (Squadrito et al., 2003; D'Anna et al., 2009; Atteritano et al., 2007). In a randomized clinical trial, we studied the effects of genistein on endothelial function in postmenopausal women with metabolic syndrome (MS). Twenty postmenopausal women with MS, according to modified NCEP-ATP III were randomly assigned to receive placebo or genistein (54mg/day) for 6 months, along with a Mediterranean-style diet. Postmenopausal women without MS (n=15), served as controls. The primary goal was the assessment of endothelial function by flow-mediated vasodilation (FMD) of brachial artery; moreover, time to peak dilation in the FMD response has been evaluated. Secondary outcomes were fasting glucose, fasting insulin, total cholesterol, Low-Density Lipoprotein Cholesterol, High Density Lipoprotein-Cholesterol, triglycerides, visfatin, adiponectin and homocysteine blood levels. Data on adverse events were also recorded. After six months of treatment FMD at 50s and peak FMD significantly increased in genistein recipients compared to placebo. Moreover, genistein significantly decreased the blood levels of total cholesterol, triglycerides, homocysteine and visfatin compared to placebo; while blood adiponectin levels were increased. Genistein recipients neither experienced more side adverse effects than placebo nor discontinued the study. Six months of treatment with genistein effectively improves flow-mediated vasodilation in postmenopausal women with metabolic syndrome.

References

Squadrito et al (2003) *Am J Med.* 114, 470-6.

D'Anna et al (2009) *Menopause* 16, 301-6.

Atteritano et al (2007) *J Clin Endocrinol Metab.* 92, 3068-75.