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Effect of Diamel in patients with metabolic syndrome: a randomized double-blind placebo-controlled study

Eduardo Cabrera-Rode [1], Neraldo Orlandi, Yaneysi Padrón, Celeste Arranz, Raysa Olano, Mayra Machado, Arturo Hernández-Yero, Raúl Calderín, Emma Domínguez

Affiliations
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Abstract

Background: The aim of the present study was to determine whether the administration of Diamel, marketed as a food supplement by Catalysis Laboratories (Madrid, Spain) could improve any of the components of metabolic syndrome (MS), as well as insulin resistance and sensitivity.

Methods: In all, 100 patients with MS (19-70 years of age) who satisfied the World Health Organization criteria for MS were included in the study. Participants were randomly assigned to receive either oral Diamel or a placebo (while maintaining a diet appropriate to their weight and physical activity) at a dose of two capsules before each of the three main meals each day for 1 year. Anthropometric indices, blood pressure, fasting plasma glucose, lipid profile, insulin, creatinine, and uric acid (UA) were determined. Insulin resistance (IR) was assessed and three indirect indices were used to calculate insulin sensitivity (IS).

Results: Compared with placebo, Diamel improved fasting insulin concentrations, IS, and IR and reduced UA concentrations from 6 months until the end of treatment ($P < 0.05$ for all). In addition, after 12 months treatment with Diamel, significant changes from baseline were seen for mean fasting insulin ($P < 0.05$), UA ($P < 0.05$), IR ($P < 0.001$), and IS ($P < 0.001$), whereas no such changes were seen in the placebo-treated group. Improvements were noted in body mass index, IR, and IS in both groups.

Conclusions: Long-term Diamel treatment, combined with lifestyle changes, was beneficial for IR and IS, and reduced serum UA levels in patients with MS.