Background: Angiotensin II regulates the production of adipokines. The objective was to study the effect of treatment with telmisartan versus olmesartan in hypertensive obese and overweight patients. Subjects: A sample of 65 overweight and obese patients with mild to moderate hypertension was analyzed in a prospective way with a randomized trial. Patients were randomized to telmisartan (80 mg/day) or olmesartan (40 mg/day) for 3 months. Weight, body mass index, blood pressure, basal glucose, insulin, total cholesterol, LDL-cholesterol, HDL-cholesterol, triglycerides, HOMA, QUICKI, leptin and adiponectin were determined at basal time and after 3 months of treatment. Results: Sixty five patients gave informed consent and were enrolled in the study. Patients treated with telmisartan had a significative decrease of glucose 10.53 mg/dl (CI 95%: 2.6-18.5), insulin 2.51 mUI/L (CI 95%: 2.07-7.17) and HOMA 1.08 (CI 95%: 0.39-2.55). Patients treated with olmesartan had a significative decrease of total cholesterol 20.2 mg/dl (CI 95%: 5.8-34.9) and LDL cholesterol 22.6 mg/dl (CI 95%: 9.7-35.6). Only leptin levels have a significant decrease in telmisartan group 7.39 ng/ml (CI 95%: 1.47-13.31). Conclusion: Telmisartan improved blood pressure, glucose, insulin, HOMA and leptin in hypertensive diabetic patients. Olmesartan improved blood pressure and lipid levels.

Keywords
Adiponectin, Hypertension, Insulin resistance, Leptin, Olmesartan, Telmisartan.