Objective: Saxagliptin is a new antidiabetic drug used in combination with metformin as preferred treatment in type 2 diabetes patients. In our study, we aimed to examine the effect of saxagliptin and metformin combination therapy on blood glucose, HbA1c, lipid parameters and weight change in patients with type 2 diabetes. Materials-Methods: A hundred forty-eight patients (69 male and 79 female) who admitted to outpatient clinics of Endocrinology and Metabolic Diseases Department, previously diagnosed diabetes, could not achieve glycemic control with a single dose of metformin, were included. Saxagliptin, in all cases 5 mg / day (once in the morning) and metformin 2x1000 mg / day (morning and evening) was started. At week twelve changes in levels of fasting blood glucose (FBG), postprandial blood glucose (PPG), HbA1c, total cholesterol, LDL cholesterol, HDL cholesterol, weight and body mass index (BMI) were analyzed. Results: Patients average age was 49.18 ±22.5 years, while mean duration of diabetes was 9.32 ±4.78 years. At week twelve, the levels blood glucose (287.45±37.24, 113.32±44.16, p=0.001), postprandial blood glucose (384.34 ± 67.89 /201.23±21.24, p =0.001), total cholesterol (363.37±59.18/211.65±19.42, p=0.05), LDL cholesterol (198.51±33.78 /145.29±27.54, p=0.05) were significantly reduced. The increase in HDL cholesterol levels (49.31±19.41/ 59.21±16.12, p=0.005) was considered significant. Body weight and (49.31±19.41/ 59.21±16.12, p=0.005) and BMI (43.24±09.38/34.51±21.19) were found decreased compared to baseline, but these changes were not significant. Conclusion: For patients who could not achieve optimal glycemic control with metformin monotherapy, given the positive effects on glucose and lipid profile and possible preventive effect on long term complications saxagliptin and metformin combination seems like an good treatment option. Keywords: diabetes mellitus, saxagliptin, lipid parameters, weight