

Background Diabetes mellitus (DM) is one of the main risk factors for cardiovascular complications ,namely coronary ischemia, Peripheral vascular disease, and stroke. Atherosclerosis is highly associated with Diabetes mellitus . Carotid intima media thickness (CIMT) is used extensively as a method to detect atherosclerosis.

Aim of the study repaglinide and glimepiride are newly introduced and used for non–insulin-dependent diabetes mellitus (NIDDM) ,the study aim to compare the difference in their effect on CIMT.

Patients and Methods The study enrolled 62 patients NIDDM all from Al Hakeem Diabetic center in Najaf in period from January 2011 to the March 2012 all had their recording files with mean age (53 ± 0.23), 35 females and 27 males with body mass index (BMI) Mean(28 ± 0.4) divided into two groups (blindly grouped) each one 31 used Repaglinide 3mg/day and second one used Glimepiride 3mg/day. followed after 6 months and then after 12 months record the hemoglobin A_{1c}(HbA_{1c}), lipid profile , CRP, blood pressure ,the blood urea and serum Creatinine and studying the CIMT of both internal carotid and the common carotid arteries using ultrasonic Doppler study .

Results There was a significant($p<0.05$) reduction in CIMT of left internal carotid and the right common carotid arteries in patients treated with repaglinide compares to those patients treated with glimepiride and there was also reduction in the other parameters Low-density lipoprotein (LDL) , Triglyceride (TG) ,HbA_{1c} still these decrement were not a significant one.

Conclusion and recommendation repaglinide is better in reduction of the CIMT than Glimepiride in spite of insignificant reduction in the lipid profile or HbA_{1c}. We recommend to study what dose required to achieve a best reduction in CIMT.