Abstract

Type 2 diabetes mellitus is a major risk factor for coronary artery disease, and coronary artery disease is responsible for increased morbidity and mortality among people with diabetes. The coronary artery disease in type 2 diabetes mellitus is characterized by severe, extensive, long segment and multivessel disease. While microvascular complications are substantially less with strict glycemic control, macrovascular benefits are just moderate even after controlling conventional risk factors. In this present study it is observed that, an increased insulin resistance strongly correlates with the severity of coronary artery disease especially in those with diabetes for more than 5 years of duration. Moreover, Insulin > 20IU/µl and HOMA IR >3.4 was a strong predictor of syntax score of more than 22 which is a marker of severe CAD. A severity score was developed known as Manipal Diabetes Coronary Artery Severity Score 2 (MDCASS 2) which will help in predicting severe CAD in type 2 diabetes. Further Insulin > 20IU/µl was also associated with adverse cardiac events at one year after coronary angiogram in these cohort. Individualization of management of type 2 diabetes is likely to be a reality by utilizing HOMA IR/Insulin levels for risk stratification. Resistance to action of insulin is limited to its metabolic action (glucose regulation) and is characterized by sustained basal hyperinsulinemia with preserved MAP kinase pathway leading to sustained mitogenic and proinflammatory actions in the vessels. This might be the future therapeutic target.