Research Gap
Type 2 Diabetes is an important predisposing factor for CAD, and a continuously growing health problem which is a challenge for the future generations. Individuals with type 2 diabetes mellitus have multiple interrelated metabolic defects and insulin resistance is said to be closely associated with most of these metabolic defects. As a result many pathway abnormalities manifest in the pre-diabetes phase years before the development of type 2 diabetes mellitus. Once type 2 diabetes is established, it adds another pathway towards vascular damage.

- Till now association of insulin resistance with development/occurrence of CAD has been elucidated, but its relation towards the severity of the disease has not been studied. Severity of the disease is important, as long term outcome not only depends on association but also severity of the disease.

- Coronary artery disease in type 2 diabetes mellitus is characterized by severe, multivessel, long segment and extensive disease. The known conventional risk factors accounts for only 25% of the disease. An increased burden for CAD in type 2 diabetes mellitus is yet to be explored.

- It is still not clear, to what extent insulin resistance/hyperinsulinemia accounts for severe CAD in type 2 diabetes mellitus.

- Type 2 diabetes mellitus is a heterogeneous disease, development of this cardiovascular complications is not uniform across the entire spectrum of diabetes. The subgroup which is at lesser risk is not clearly identified.

- The threshold level beyond which hyperinsulinemia/insulin resistance contributes towards severe and complex coronary artery disease is not yet elucidated.

Since the evolution of insulin resistance is unique, the current study is an effort to determine the correlation between insulin resistance along with other conventional risk factors and severity of coronary artery disease in type 2 diabetes mellitus. A close and critical evaluation of insulin resistance measured by HOMA-IR and insulin levels along with other clinical markers with respect to severity of coronary artery disease will help us to predict which one these would be most responsible for severe and complex CAD and its outcomes at one year in type 2 diabetic patients.