THE KOREAN SOCIETY OF NEPHROLOGY
APCN & KSN 2024
June 13(Thu) - 16(Sun), 2024 Coex, Seoul, Korea
Promoting Sustainable Kidney Health: The Asia-Pacific and Beyond

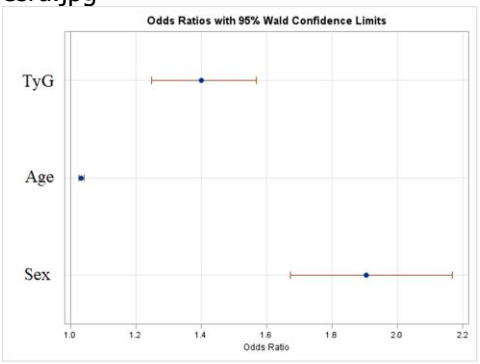
Abstract Submission No.: A-0009

Insulin resistance linked to increased risk of End-Stage Renal Disease in non-diabetic and diabetic individuals: findings from a large-scale study

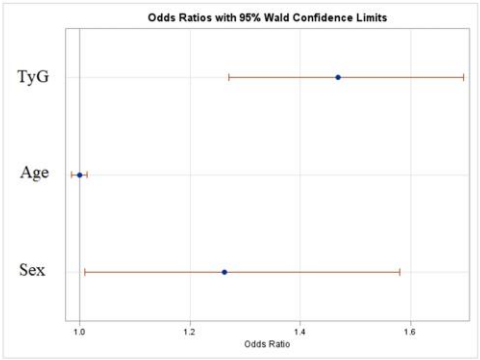
Javad Alizargar
Department of Family Medicine, Kashan University, Iran, Islamic Republic of

Objectives : Insulin resistance and ESRD are related through several complex mechanisms. Insulin resistance can contribute to the development of CKD and diabetic nephropathy, as well as other conditions that can lead to ESRD. The relationship between insulin resistance and ESRD in non-diabetic individuals is complex and can involve a combination of genetic, environmental, and lifestyle factors. The objective of this study is to evaluate the association between insulin resistance and end stage renal disease using the Triglyceride-glucose (TyG) index as a measure of insulin resistance.
Methods : The study analyzed data from 499,796 individuals with available information about their diabetes status, using the UK Biobank database. Descriptive statistics and multiple logistic regression were utilized through SAS 9.4 to investigate the association between insulin resistance and the risk of developing End-Stage Renal Disease (ESRD). The TyG index was calculated using the formula TyG = Ln [fasting triglycerides (mg/dL) x fasting glucose (mg/dL) / 2].
Results : Of the 499,796 individuals studied, 1665 (0.33%) had End-Stage Renal Disease (ESRD). After adjusting for age and sex, the study found a significant independent association between insulin resistance and ESRD among non-diabetic individuals (OR=1.399, CI= 1.249-1.567). The association was even stronger in diabetic individuals (OR=1.468, CI= 1.271-1.696).
Conclusions : Insulin resistance was independently associated with an increased risk of developing End-Stage Renal Disease (ESRD) in both non-diabetic and diabetic individuals in this study of nearly half a million individuals using the UK Biobank database. The study highlights the importance of managing insulin resistance to prevent ESRD.

esrd.jpg



Association of insulin resistance with ESRD in non-diabetic individuals



Association of insulin resistance with ESRD in diabetic individuals