

## INTISARI

### KORELASI INDEKS TRIGLISERIDA GLUKOSA (TyG) TERHADAP DERAJAT OKLUSI INFARK MIOKARD AKUT (IMA) PADA USIA MUDA

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**Latar Belakang:** Infark Miokard Akut (IMA) adalah penyebab utama kejadian dan kematian penyakit kardiovaskular di seluruh dunia dimana perkembangannya dipengaruhi berbagai faktor termasuk kelainan kadar glukosa dan trigliserida dalam darah. Indeks Trigliserida Glukosa (TyG) adalah penanda baru untuk memprediksi resistensi insulin dan penyakit sindrom metabolik. Beberapa penelitian menunjukkan indeks TyG berkaitan dengan angka kejadian dan kematian dari penyakit kardiovaskular pada populasi umum baik diabetes maupun non diabetes. Saat ini belum ada penelitian yang menganalisis hubungan indeks TyG terhadap derajat oklusi IMA pada usia muda.

**Tujuan:** Untuk mengetahui korelasi indeks trigliserida glukosa (TyG) terhadap derajat oklusi infark miokard akut pada usia muda

**Metode:** Penelitian *cross-sectional* dengan data primer pasien IMA paska tindakan intervensi koroner perkutan (IKP) pada usia muda yang diambil dari bulan Maret 2023 hingga Agustus 2023. Analisis bivariat menggunakan *Independent t test*, *Mann Whitney* dan uji korelasi *Pearson* untuk menunjukkan perbedaan bermakna dan hubungan variabel perancu terhadap indeks TyG serta uji *ANOVA* untuk menunjukkan hubungan derajat oklusi dengan indeks TyG. Analisis multivariat menggunakan uji regresi ordinal untuk mengontrol variabel perancu yang memiliki  $p < 0.25$  pada analisis bivariat terhadap derajat oklusi.

**Hasil:** Total sampel didapatkan 63 pasien dengan rerata usia 42 tahun dan mayoritas laki-laki. Variabel usia memiliki hubungan bermakna dengan derajat oklusi ( $p=0.038$ , koefisien regresi 0.112, CI 95% 0.006-0.217), namun indeks TyG tidak menunjukkan hubungan bermakna dengan derajat oklusi, baik dari uji *ANOVA* ( $p=0.445$ ) maupun multivariat ( $p=0.572$ , koefisien regresi -0.259, CI 95% -1.156-0.639).

**Kesimpulan:** Indeks TyG tidak berkorelasi dengan derajat oklusi pada pasien usia muda dengan IMA paska IKP.

**Kata kunci:** Infark miokard akut, Resistensi insulin, Indeks TyG, Intervensi koroner perkutan, Derajat Oklusi

## ABSTRACT

### CORRELATION OF GLUCOSE TRIGLYCERIDE INDEX (TyG) TO THE DEGREE OF ACUTE MYOCARDIAL INFARCTION (AMI) IN YOUNG AGE

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#### Background

Acute Myocardial Infarction (AMI) is the main cause of cardiovascular disease incidence and death throughout the world where its development is influenced by various factors including abnormalities in blood glucose and triglyceride levels. Triglyceride Glucose Index (TyG) is a new marker for predicting insulin resistance and metabolic syndrome diseases. Several studies have shown that the TyG index is related to the incidence and mortality of cardiovascular disease in the general population, both diabetic and non-diabetic. Currently, there is no research that analyzes the relationship between the TyG index and the degree of IMA occlusion at a young age.

#### Aim

To determine the correlation of the triglyceride glucose (TyG) index with the degree of occlusion of acute myocardial infarction at a young age

#### Methods

Cross-sectional study with primary data on AMI patients after percutaneous coronary intervention (IKP) at a young age taken from March 2023 to August 2023. Bivariate analysis using the Independent t-test, Mann Whitney, and Pearson correlation tests to show significant differences and variable relationships confounding the TyG index as well as the ANOVA test to show the relationship between the degree of occlusion and the TyG index. The multivariate analysis uses an ordinal regression test to control confounding variables with  $p < 0.25$  in the bivariate analysis of the degree of occlusion.

#### Results

The total sample obtained was 63 patients with an average age of 42 years and the majority were men. The age variable had a significant relationship with the degree of occlusion ( $p = 0.038$ , regression coefficient 0.112, 95% CI 0.006-0.217), but the TyG index did not show a significant relationship with the degree of occlusion, both from the ANOVA ( $p = 0.445$ ) and multivariate tests ( $p = 0.572$ , regression coefficient -0.259, CI 95% -1.156-0.639).

#### Conclusion

The TyG index does not correlate with the degree of occlusion in young patients with AMI after PCI.

#### Keywords

Acute myocardial infarction, Insulin resistance, TyG Index, Percutaneous coronary intervention, Degree of Occlusion