Journal of Family Medicine and Primary Care
Official journal of the Academy of Family Physicians of India
Home Current issue Instructions Submit article

J Family Med Prim Care. 2018 Mar-Apr; 7(2): 430–434.
doi: 10.4103/jfmpc.jfmpc_194_17
PMCID: PMC6060918
PMID: 30090789

Relationship between serum gamma-glutamyltransferase activity and cardiometabolic risk factors in metabolic syndrome

Eman Mokbel Alissa[1,2]

[1]*Department of Clinical Biochemistry, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia*
[2]*Elemental Spectroscopy Unit, King Fahd Medical Research Center, King Abdulaziz University, Jeddah, Saudi Arabia*
Address for correspondence: Prof. Eman Mokbel Alissa, Faculty of Medicine, King Abdulaziz University, PO Box 12713, Jeddah 21483, Saudi Arabia. E-mail: em_alissa@yahoo.com

Abstract

Go to:

Objectives:

Go to:

The objective of this study was to examine the associations of serum gamma-glutamyltransferase (GGT) levels with the metabolic syndrome (MetS) and its components in Saudi adults.

Methods:

Go to:

The study comprised 400 participants (70 men and 330 women), aged between 40 and 88 years, randomly selected from the medicine clinics at the King Abdulaziz University Hospital in Jeddah, Saudi Arabia, in a cross-sectional study design. A standardized questionnaire was used to determine demographics variables, general health, lifestyle habits, and medical history. Anthropometric and biochemical variables measurements were taken for all study participants. MetS was defined according to the American Heart Association/National Heart, Lung, and Blood Institute report, by the presence of abdominal obesity.

Results:

Go to:

Higher means for triglycerides and insulin resistance indices ($P < 0.0001$) was found among those in the second, third, and fourth GGT quartiles as compared with their counterparts in the first quartile. McAuley index ($\beta = -0.239$, $P < 0.0001$, 95% confidence interval: −4.1–−1.5) was shown to be a major determinant of circulating GGT in a multivariate analysis.

Conclusion:

Go to:

Elevated serum GGT could be a cardiometabolic risk factor either as a mediator of low-grade systemic inflammation and as a mediator of oxidative stress through mediation of extracellular glutathione transport into cells of organ systems.

Keywords: Gamma-glutamyltransferase, metabolic syndrome, Saudi adults, oxidative stress, inflammation

Introduction

Go to: