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Blood group antigen (ABO and Rh) distribution in myocardial infarction (MCI) patients of Hail region in Saudi Arabia

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Introduction: According to WHO 2014 world health ranking survey Saudi Arabia ranks 27th in coronary heart disease (CHD) related deaths. According to the same survey CHD was also the leading cause of deaths in Saudi Arabia followed by stroke, influenza, diabetes, and the kidney disease (WHO, 2014 survey). Several studies have suggested relationship between inheritance of blood group antigens and certain diseases such as diabetes, cardio vascular disease and cancers. Although many studies have suggested an association between the blood groups and the cardiovascular diseases however results have been inconsistent. For example one study suggests an association between the O blood groups and the increased risks of coronary heart disease, while others show blood group A to be associated with an increased risk CHD.

Aim: Since there are different studies with different conclusions about the association between CAD and the inheritance of AB and Rh (D) antigens, and since it is the leading cause of death in Saudi Arabia, we decided to perform a small study on 120 CHD patients who have had an acute myocardial infarction (MCI) in the recent past and were admitted to King Khaled Hospital (KKH) in Hail region of Saudi Arabia.

Materials & Methods: This study included 329 control and 111 male myocardial infarction patients enrolled at (KKH) Cardiology Department in Hail region of Saudi Arabia. On these patients' ABO data was collected along with some other risk factors such as diabetes, smoking habits, age, gender, obesity and the family history of CAD. Data was statistically analysed using Z- test for two population proportions.

Results: Out of 329 control male population (age range 12-86, mean age 32.7 years), 3.35% were A- and 20.7% were A+, 3.95% were B- and 14.28% were B+, 2.43% were AB- and 8.2% were AB+, 8.5% were O- and 38.3% were O+. In comparison, when we analysed the blood group distribution among patients with myocardial infarction (age range 16-90, mean age 49.4 years), we found: Out of 111 male patients 0.9% were A- and 30.6% were A+, 1.8% were B- and 18.01% were B+, 0.9% were AB- and 6.3% were AB+, 0.9% were O- and 40.5.3% were O+.

Conclusions: As compared to control group A+ male patient show statistically high incidences of MCI and O- show significantly low incidences of MCI.

Biography

M Parvaiz Farshori is currently working as a Professor at Department of Physiology, College of Medicine University of Hail, Saudi Arabia.

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