

## عنوان مقاله:

Association between genetic polymorphism of catalase (CAT) C-262T, Cu/Zn superoxide dismutase (SOD1) A251G  
(and risk of Age-related macular degeneration (AMD

## محل انتشار:

اولین کنگره بین المللی و سیزدهمین کنگره ژنتیک ایران (سال: 1393)

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## خلاصه مقاله:

Purpose: Cells have complex network of antioxidant enzymes that protect cells from induced damages by reactive oxygen species (ROS). In considering that catalase and superoxide dismutase are as a primary protection against oxidative stress, also oxidative stress is as an important risk factor in age-related macular degeneration disease (AMD), we investigated the possible association between genetic polymorphisms of catalase (CAT) C-262T, Cu/Zn superoxide dismutase (SOD1)A251G and risk of exudative AMD. Methods: The study included 112 exudative AMD patients and 112 healthy controls. Genotyping of CAT C-262T and SOD1A251G were done by polymerase chain reaction and restriction fragment length polymorphism (PCR-RFLP) method. Differences in the frequencies were estimated using the  $\chi^2$  test and risk was estimated with a logistic regression after adjusting for smoking, working place and age status. Results: There was significant difference between CAT CT+TT genotype and AMD disease ( $P=0.009$ ,  $OR=0.38$ ,  $95\%CI=0.18-0.78$ ). Also T allele has a significant association with risk of AMD and decreases risk of disease ( $P=0.036$ ,  $OR=0.59$ ,  $95\%CI=0.36-0.96$ ), but there was no significant differences between SOD1A251G and variant homozygous and heterozygous frequencies in patients compared to controls ( $P=0.589$ ,  $OR=0.77$ ,  $95\%CI=0.3-1.96$ ). Conclusions: According to a recent study, T allele in CAT genotypes increases catalase enzyme expression and activity, this increased level of CAT reduces the rate of reactive oxygen species (ROS). As a result, current study suggests T allele in CAT genotypes decreases risk of AMD

## کلمات کلیدی:

Age-related macular degeneration (AMD); Catalase (CAT); Cu , Zn Superoxide dismutase (SOD1); Polymorphism

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