

Objectives: This study aimed to determine the frequency of ACE genotypes (II/ID/DD) in Sudanese patients with SCA and correlate these genotypes with disease complications.

Materials and methods: A total of 50 patients with SCA and 40 healthy volunteers as a control group were enrolled in this study. Three milliliters of ethylenediamine tetraacetic acid anticoagulated blood were collected from each subject, DNA was extracted by salting-out method, and target DNA regions of the ACE gene were amplified using allele-specific polymerase chain reaction.

Data of this study was analyzed by Statistical Package for Social Sciences. Frequency of qualitative variables was calculated, and correlation was tested by Chi-square test. Regression was used to investigate the association between the polymorphism and complications of SCA.

Results:

The frequencies of the DD, ID, and II genotypes were 42%, 50%, and 8%, respectively, for patients, whereas in the control group, it was 80% for DD genotype and 20% for ID, while II genotype was totally absent. The regression analysis showed no statistically significant association between the disease complications and each of the ACE polymorphic genotypes.

Conclusion:

No statistically significant association was found between ACE polymorphism and complications of SCA.