Association Between Angiotensin Converting Enzyme Gene Insertion\Deletion Polymorphism and Coronary Heart Disease in Gaza Strip

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Abstract:

The insertion\ deletion (ID) polymorphism in intron 16 of the ACE gene is a marker for a functional polymorphism, and it is also reported to influence levels of ACE in healthy subjects. ACE ID polymorphism is associated with an elevated risk of thrombosis and may be causally associated with coronary heart disease (CHD). To investigate the association between ACE gene polymorphism and CHD in the Gaza strip population, we conducted case-control study included 260 samples comprised 160 CHD patients and 100 control subjects. Questionnaire interview was applied. Blood samples were collected in EDTA tube for DNA extraction. Polymerase Chain Reaction (PCR) used to detect ACE ID polymorphism. There was significant association between CHD and age, physical activity, education level, occupation, and family history of CHD. No significant association was observed between CHD and gender and smoking. The genotype frequencies were: ID (36.9%, 42%), DD (53.8%, 54%) and II (9.4%, 4%) in case and control groups respectively. The ACE ID allele frequencies were: I (27%, 25%) and D (72.2%, 75%) in case and control group respectively. The D allele was the most frequent allele in both groups. No association between ACE ID polymorphism and gender. The DDgenotype was the most frequent in both study groups. There was no statistically significant association between the ACE ID polymorphism and CHD in Gaza strip. The results showed that there was no significant association between the ACE ID gene polymorphism and CHD in Gaza strip.

Images

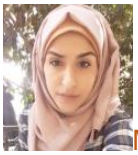


Figure 4.4: A photograph of *ACE* gene amplification product,490 bp for *II*,490 bp and 190 bp for *ID*, 190 bp for *DD*

Table 4. Distribution of the ACE alleles and genotypes frequency among the study groups.

Alleles	Case No. (%)	Control No. (%)	Total
I	89 (27.8%)	50 (25%)	139 (26.73%)
D	231 (72.2%)	150 (75%)	381 (73.27%)
Total	320 (100%)	200 (100%)	520 (100%)
P-value	0.48		

ACE genotype	Case group No. (%)	Control No. (%)	Total
ID	59 (36.9%)	42 (42%)	101 (38.85%)
DD	86 (53.8%)	54 (54%)	140 (53.85%)
II	15 (9.4%)	4 (4%)	19 (7.30%)
Total	160 (100%)	100 (100%)	260 (100%)
P-value	0.241		



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Medical Sciences Researcher (BSc/BA) in Medical Laboratory Sciences,from University Collage of Science and Technology (UCST) in Palestine. I participated in the Media Committee of the First Scientific Conference "The Role of Colleges and Universities in The Development of Society", held at the University College of Science and Technology ,and Participated this article in "The week of scientific research 2" with Research and Graduate Affairs at The Islamic University.
I would like to participate in the conference by a generous invitation from Dr. Carolina Mendoza And a recommendation from Dr. Ahmed K Alkahlout .

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Notes/Comments: