Letter to the Editor

Angiotensin-converting Enzyme Genetic Polymorphism

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Sir Editor,

The recent report on "angiotensin-converting enzyme (ACE) genetic polymorphism." is very interesting. Albuquerque et al.[1] concluded that "the DD genotype was independently associated with worse echocardiographic outcome, while the DI genotype, with best echocardiographic profile." In fact, the polymorphism of ACE is different in different countries and the relationship to clinical disorder is widely mentioned[2]. The study of ACE polymorphism has proved to be useful in management of cardiac patients, especially for selection of proper cardiac drug[3]. However, the relationship to cardiac pathology is still controversial. Similar to the present study, the ventricular function abnormality determined by EKG was proposed for interrelationship with ACE polymorphism by Yu Jin et al[4]. Nevertheless, the small sample size in the published studies[1, 4] is the main obstacle for conclusions. The effect of race in clinical relationship of ACE polymorphism requires a very large study in order to lead to conclusions[2].

Keywords

Polymorphism, Genetic; Peptidyl-Dipeptidase A.

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Reply

Indeed, the sample size limitation is a universal bias in all of the genetic polymorphisms in heart failure and the ACE-genotype was no different. The metanalysis by Bai et al.[1]. with 17 different studies included 2.453 cases (i.e. heart failure patients) from all over the world with only 60.3% being white individuals. The author concluded that there was no association between ACE DD genotype and heart failure risk. The different ethnic background of these populations is one of the reasons for the lack of the association and when analyzed individually, some of these studies[2,3] did find a relation with ACE genotype and heart failure risks. Even more important is the relationship between the surrogate markers of disease progression – Echocardiogram parameters – and the genotypes since clinical outcomes will be very hard to prove with the sample size of these populations (which would have to be in thousands not hundreds). Andersson and Sylvén[4] for example did find a relationship between echocardiographic parameteres and the ACE genetic polymorphisms. In conclusion, it looks like all these papers combined do not have statistical power to answer in a definitive way the relationship between Heart Failure Prognosis and ACE Genetic Polymorphisms. But it looks like we are on the right track and we will have to proceed with a lot more patients.

Sincerely,

Felipe Neves de Albuquerque
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Alyne Freitas Pereira Gondar
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