

Considerations about Centenarian Patients

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Over the past decades, with the advancement in diagnostic and therapeutic strategies in various diseases associated with a greater appreciation of preventive medicine, a progressive increase in life expectancy has been observed worldwide, and an increasing population of centenarian patients.

Centenarians represent the extreme in life expectancy and, according to recent studies in this population, it is believed that genetic factors may be related to the predisposition to longevity, hence leading to a slow aging process compared to individuals of the same age, as well as a delay or even some “protection” against major age-related diseases¹.

Some studies also demonstrate the importance of gender in centenarian patients, evidenced by the higher prevalence of women in this population, as found in the study of Santana et al.² These data suggest that the specific mortality rates related to gender follow different trajectories during aging.³ In addition to genetic factors, in a study by Franceschi et al.³, the authors suggest that longevity in women is less dependent on genetics than in men. In this study, the authors suggest that the Italian centenarian women evaluated had a healthier lifestyle, as well as more favorable environmental conditions assigned to anthropological and cultural characteristics related to gender in the population studied³.

In particular, there is also a low incidence of cardiovascular diseases in centenarians. These are the main causal factors of mortality in patients aged 70 to 80¹. In a study of American centenarians, a lower prevalence of hypertension, angina or myocardial infarction and diabetes was found, in addition to good mental health, despite physical limitations, compared to patients aged 85 to 99⁴.

However, despite the progressive increase of the centenarian population, there are few studies in the literature about the echocardiographic abnormalities in this population. While there is a lower incidence of cardiovascular diseases in the centenarian

population described in the literature in relation to other groups of patients, in the study conducted by Santana et al.², it was found increased indexed left cardiac chamber dimensions in 87.5% of patients, myocardial remodeling (hypertrophy in 81.25% of patients), segmental myocardial contractility abnormalities (in 37.5% of patients) in addition to moderate or severe valve failures. Another fact worthy of note, in the same study, was the incidence of moderate aortic valve insufficiency in 12.5% of patients, and no cases of severe aortic stenosis, since the latter is the main degenerative valve disease in the elderly.

In this study, the diagnosis of enlargement of left heart chambers showed considerable variation after correction of the dimensions for the body surface area emphasizing the need for indexing echocardiographic measurements of cardiac chambers in this specific population. This fact may be explained by the low anthropometric dimensions of the study series (average weight: 48.2 kg and height: 1.49 m). Most patients were female and the body surface characteristics corroborate the evidence of previous studies associating longevity to life habits and anthropometric characteristics related to gender. It would be interesting, in this manuscript, to describe ethnicity, lifestyle habits such as the practice of regular physical activity throughout life, history of smoking and alcohol consumption and clinical information about previous diseases such as hypertension, diabetes mellitus and dyslipidemia. Information on electrocardiographic records in the study population would also provide additional data regarding cardiovascular abnormalities in centenarians.

Besides this, results from the study conducted by Santana et al.² also suggest the possibility of coronary heart disease and cardiovascular subclinical or undiagnosed disease in these patients. Therefore, it is important to consider that it is not uncommon to find both morphological and functional echocardiographic abnormalities in centenarian patients despite the negative clinical history for the occurrence of cardiovascular diseases, reinforcing the importance of noninvasive echocardiographic evaluation in these patients. Thus, it is important to know the clinical characteristics of centenarians to promote targeted therapeutic measures that can improve the quality of life and treatment of cardiovascular diseases with oligosymptomatic or asymptomatic expression.

In any case, further studies are needed with larger numbers of centenarian patients for increased knowledge and understanding of genetic, biological, environmental and psychosocial factors to enable the development of preventive and therapeutic strategies for a healthy and functional population aging.

Keywords

Aged, 80 and Over; Echocardiography; Longevity; Life Expectancy.

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