

The challenges in risk assessment of the military profession: A case of apical hypertrophic heart disease

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Patient LFNS, male, 41 years old, active military, with no previous symptoms or comorbidities, presents with syncope without defense lasting 15 seconds while playing football. He was taken to the emergency room of a tertiary hospital, where, upon admission, he underwent an electrocardiogram, which showed changes compatible with ventricular apex hypertrophy. A transthoracic echocardiogram was then performed, which showed hypertrophy of the apical segments of the left ventricle (estimated at 17ml/m²), preserved ejection fraction and global longitudinal strain of -10.3% with a heterogeneous pattern. Coronary angiography showed no lesions and cardiac magnetic resonance was requested, which confirmed the diagnosis of Apical Hypertrophic Cardiomyopathy (AHC), with fibrosis quantification of 22 g (around 10.6%). AHC is a rare etiology, and the possibility of sudden death in patients with it is still a cause for concern. Recent studies demonstrate that the presence and degree of fibrosis have an essential relationship with the risk of sudden death, as the presence of myocardial fibrosis can result in changes in cardiac electrical conduction, favoring the occurrence of potentially fatal ventricular arrhythmias. Concerning what is described in the literature, the degree of quantification of fibrosis fits into extensive late Gadolinium enhancement on cardiac magnetic resonance imaging >15%. As this was a young patient, active military, with hypertrophic cardiomyopathy with a fibrosis quantification level of 10.6% and a history of unexplained syncope, we considered the implantation of a subcutaneous defibrillator for the patient. The subcutaneous cardioverter defibrillator, in this case, when the patient does not need to be stimulated and where the follow-up time will be prolonged, avoids the early venous approach and all the complications of the endocardial device. Furthermore, primary and secondary outcomes studies demonstrate no inferiority compared to the conventional defibrillator. Our case demonstrates the need for better screening methods in assessing young people who join the armed forces to diagnose and avoid the risk of sudden death during core activities, which mainly involve a high level of physical fitness in land operations, surface, air and submarine operations.