EDITORIAL

SUDDEN DEATH IN THE CARDIOLOGIST’S VIEW - BETWEEN LITERATURE AND EPIDEMIOLOGY

I have chosen a topic that is most often talked about in whispers. Why? Because both, whispering and silence hide fear. All of us, we must admit, are afraid of death. Death is a problem for us doctors, only to the extent that we face it most often, being obliged to “ascertain” and “declare” it.

I have been a cardiologist for over 30 years in an emergency hospital where, from the first time witnessing a dying patient, I had the strange feeling that death is lurking around the corner and that, in fact, we are working with it next to us.

The problem of death and its analysis as a phenomenon, concerned both the philosophers of antiquity and those of our days, writers, poets, psychoanalysts. Allow me to revive one of the now famous quotes of Seneca which said that “from the moment we are born, time begins to take back our life”. I’ve lived ever since dominated by the same feeling that sometimes, no matter what we do, what we think, we know how to do, and even if we are doing everything, death comes when it wants. “Nothing is more certain than death, nothing more uncertain than its moment” (said one the most famous Romanian writers - Liviu Rebreanu).

Many centuries later after Seneca, Sigmund Freud, who is considered the founder of psychoanalysis, stated that “The purpose of life is death”, a phrase which, beyond the philosophical substrate, in turn caused a wave of confusion. Sometimes we experience the feeling of uselessness in a world where everything seems to be organized by others and we just keep moving forward. Sometimes the disease has its own course that doesn’t seem to be influenced by “how well prepared” we are. “I did everything” seems meant to excuse us only in front of our own conscience, in front of those around us, in the eyes of divinity. In fact, no one really knows what “Everything” means and where it stops.

“I think I got deathly ill the day I was born” - the poet Marin Sorescu said very beautifully in his poem entitled “Illness”. Comparing his own life with a relentless, incurable disease, the poet does not express his feelings, but suggests them. Moreover, Sorescu’s poetry is impregnated not only with symbolic elements, but also with Parnassian elements. Life, death and the state between the two are deeply and precisely sectioned and presented. Borrowing the ideas and concepts of the great philosopher Artur Schopenhauer, from ideas published in “The World as Will and Representation”, he does not consider that there is a clear opposition between life and death, but on the contrary - they intertwine: death contaminates life, without necessarily ending it.

From a medical point of view, sudden death is defined as a “natural, cardiac death, characterized by a sudden, rapid and unexpected loss of consciousness, occurring within the first hour after the onset of symptoms of an illness, in persons with known illnesses or unknown”. Pre-existing
heart disease may be known but the time and manner of death are unexpected. Controversy exists and remains as to the circumstances in which an unexpected death can be called “sudden” and how the cardiac nature of the cause death can be proven. Sometimes sudden death can be preceded by prodromal phenomena, vaguely defined as malaise, weakness, sometimes palpitations, convulsions but sometimes they are absent, especially in the case of deaths that occur during sleep. Cardiac arrest is not equivalent to death. The latter means brain death or in medical terms - failure of resuscitation, absence of electrical / mechanical activity of the heart and absence of brain activity after cardiorespiratory resuscitation maneuvers (1).

The fundamental concepts on which the definition of sudden death is based are the non-traumatic nature of the event and the fact that the death must be unexpected and instantaneous (quick, max one hour). In a very simple classification for current medical practice, sudden cardiac death can be “coronary” or “non-coronary”, starting from the premise that myocardial infarction continues to remain the most common cause of sudden death in adults.

The most important and unequaled cause of death in the adult population in the industrialized world is sudden cardiac death caused by coronary heart disease. In approximately 5-10% of cases, sudden cardiac death (SCD) occurs in the absence of ischemic heart disease or congestive heart failure.

They are excluded from the definition of sudden death - “Instant deaths” that occur quickly and unexpectedly in the evolution of severe diseases in which death is predictable (e.g., neoplasia, cirrhosis) or of states of hemodynamic or biological imbalance, as well as “Violent deaths” by accident or post-traumatic etc.

If we talk about the incidence, according to the statistics in the USA, a number of 300,000 - 350,000 SCDs are estimated annually, and according to the reports of the European Society of Cardiology, sudden cardiac death has an incidence between 0.36 and 1.28 per 1,000 inhabitants, with the mention that only victims examined or resuscitated by emergency medical services were included in these studies and that the data underestimate the true incidence in the general population (1). The incidence is also higher among men aged 60 to 69 with a history of cardiovascular disease, with rates of up to 8 per 1,000 per year reported. In Maastricht, a population-based study that followed all cases of cardiac arrest occurring in victims between 20 and 75 years of age recorded a total annual incidence of SCD of 1 in 1,000 per year. Overall, 21% of all deaths in men were sudden and unexpected compared to 14.5% in women. According to the same statistics, 80% of out-of-hospital cases occurred at home and approximately 15% on the street or in public spaces, and 40% of all cases of SCD occurred without witnesses. The incidence is higher in industrialized countries (which seems logical, especially related to the stress factor associated with an unhealthy lifestyle) and lower in underdeveloped or developing countries (2, 3).

Statistics estimate that 65% of SCD occur outside the hospital, of which 80% occur at home or during transport and 15% - in public places. There is also talk of a circadian mood, SCD being more frequent in the early hours of the morning (6-10 a.m.). The annual incidence in the general population is estimated at 1-2/1,000 people, but it increases 10 times in those with in-
Increased cardiovascular risk. The maximum incidence registers 2 peaks: the first between birth and the age of 6 months (sudden infant death syndrome), and then drops steeply, remaining at a low level throughout childhood and adolescence and begins to increase in young adults, reaching a second peak between 45 and 75 years old. Aging is an important risk factor for sudden cardiac death. From 1 to 13 years, only one in five sudden natural deaths is due to cardiac causes. Between 14 and 21 years old, the proportion increases to 30%, and then to 88% for middle-aged and elderly people. Young and middle-aged men and women have different susceptibilities to SCD, but the gender difference disappears with advancing age. The total male/female ratio is approximately 4:1, but in the 45-64 age group, SCD in men increases and the ratio is almost 7:1. This percentage drops to 2:1 between 65 and 74 years old (2, 3).

The difference in SCD risk parallels the risk for other manifestations of coronary heart disease in men and women. There are also differences by race, with the incidence of SCD being higher in Caucasian men than non-Caucasian men for the 55-64 and 65-74 age groups (2-4).

If we were to systematize the production mechanisms of SCDs, which are otherwise very complex, we can talk about 2 types of anomalies: pre-existing cardiac structural anomalies that form in the vulnerable substrate and transient functional factors that can transform a long-term, clinically latent structural anomaly, in a manifesto.

We are also talking about factors that are associated with an increased risk of SCD: advanced age, male sex, black race, family history of ICD, elevated LDL-cholesterol, hypertension, smoking, diabetes, increased heart rate, increased heart rate variability, excessive alcohol consumption, ECG/echo signs of LVH. Risk categories are described: Severe left ventricle (LV) dysfunction (LVEF below 35%), ischemic heart disease, history of AMI, history of malignant ventricular rhythm disorders.

In recent years, there has been discussion about the intervention of the genetic factor constituting what we call - The genetic bases of SCD, which are incriminated in a series of syndromes such as long QT syndrome, Brugada syndrome, obstructive-hypertrophic cardiomyopathy, arrhythmogenic right ventricle dysplasia, catecholaminergic polymorphic ventricular tachycardia, certain types of dilated cardiomyopathy. “The family environment, including dietary, psychological and developmental factors” may play a particular role in determining this aggregated susceptibility in family members. “Rare” variant of DNA, one or more polymorphisms (variants common DNA) (5).

“Death stops both love and fights. Everyone remains only with how much he loved or how much he fought. He still has time, maybe, just to regret that he didn’t love and fight enough...” (Octavian Paler)

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REFERENCES


