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Acta Medicinae
Legalis et Socialis

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SUDDEN DEATH DURING SPORTS ACTIVITY AN UNUSUAL CAUSE

Abstract: Sudden Death may occur during exercise due to cardiac or extra-cardiac causes. This case concerns an apparently healthy 49-year-old male that died during athletics training, immediately after complaining of chest pain. The *postmortem* examination revealed massive pulmonary oedema and multiple necrotic liver granulomas, eosinophil-rich (with degranulation), some of which contain foreign bodies whose morphology is consistent with *Schistosoma mansoni*'s eggs. Death resulted from an anaphylatic reaction with acute lung oedema as a consequence of parasitic allergic hepatitis aggravated by the effort of sports activity. Schistosomiasis is an unusual cause of sudden and unexpected death, mainly in Europe.

Keywords: Sudden death; sports; schistosomiasis.

Introduction

Sudden Death is a universal everlasting concern, since it occurs unexpectedly and as a consequence of a broad *spectrum* of causes. Some are unusual and extra-cardiac (10%). Characterized by a non-traumatic nature, occurring instantaneously or within one hour after the onset of complaints¹, it may take place during sports activity.

Material and methods

The authors report a case of an apparently healthy 49-year-old male that dropped dead during athletics training, immediately after complaining of chest pain. There was no history of trips to foreign countries.

A *postmortem* examination was performed.

Results

The autopsy revealed diffuse pulmonary oedema (Figure 4), oedema of the myocardial interstitium and signs of acute "functional" heart dilation, coronary atherosclerosis,

generalized organ vascular congestion, fibrous thickening of splenic and hepatic capsules, as well as multiple necrotic liver granulomas, eosinophil-rich (with degranulation), some of which contain foreign bodies whose morphology is consistent with *Schistosoma mansoni*'s eggs (Figures 1,2,3).

Toxicology was negative.

Discussion

Schistosomiasis², also named bilharzia, bilharziosis or snail fever, is a parasitic disease caused by several species of the genus *Schistosoma*. First described by Theodor Bilharz in 1851, it affects 200 million people in the world, mainly in Asia, Africa and South America. Some are asymptomatic and other present either acute or chronic disease.

Schistosoma mansoni is hepatotropic. Trapped parasite's eggs secrete antigens that elicit a vigorous immune response. It is the resultant cellular infiltration, rather than the eggs themselves, that are responsible for the pathology.² Macrophages, lymphocytes and eosinophils are prominent and involved in cytokines (interleukin 4, 5, 9, 10, 13) and antibodies (IgE, IgG) production.³⁻⁵

Conclusions

Death may result from different underlying mechanisms.^{2,6} In the present case, data suggests that the final, sudden and unexpected event may have supervened from anaphylactic reaction with acute lung oedema as a consequence of parasitic allergic hepatitis aggravated by the effort of sports activity.⁶

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