H14 A Case of Sudden Death From Takayasu Arteritis (TA): The Role of the "Histopathological Autopsy" in the Diagnosis of a Rare Disease

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After attending this presentation, attendees will better understand the role of TA.

This presentation will impact the forensic science community by demonstrating the role of histopathological investigations in cases of sudden death.

The autopsy represents the gold standard to determine cause of death. Sometimes autopsy cannot determine the pathologies that led to death, especially when only microscopic data determines such mechanisms. The pathologist uses histopathological examination even when the cause of death is already known at autopsy, but it becomes crucial when autopsy data are doubtful. In cases of sudden death, a macroscopically visible anatomical anomaly is not always present. Therefore, histopathological autopsy becomes crucial in diagnosis.

Reported here is the case of a 50-year-old woman who suddenly died in the emergency room; she was being seen for dizziness and nausea. An autopsy was performed as the woman enjoyed good health and was a sportswoman. The analysis of the anamnestic data revealed only the presence of a history of dizziness in the absence of other signs or symptoms. The autopsy revealed the presence of sclerosis of the thoracic and abdominal aorta with widespread coronary sclerosis. The lungs and brain appeared to be edematous and congested. There were no other pathological alterations. A histopathological investigation was performed revealing the presence of an ascending left coronary embolization and aortic wall thrombosis. The analyzed emboli, as well as the atheroma on the aorta, detected the presence of an eosinophilic infiltrate compatible with various forms of eosinophilic vasculitis. Histopathologic analysis further demonstrated the presence of non-infectious vasculitis associated with Anti-Neutrophil Cytoplasmic Antibody (ANCA) -associated autoimmune mechanisms. The vessels of all organs without eosinophilic infiltrates were analyzed. The limitation of the vasculitic phenomena to the aorta indicated a diagnosis of TA. Heart sections exhibited disruption areas of intercalated disks, coherent with ventricular fibrillation associated with small areas of necrosis, homogenization of diffuse eosinophilic sarcoplasmas, and wavy fibers. Such aspects were most present at the tip of the heart. These data revealed a terminal cause of myocardial ischemia with left ventricular fibrillation in the genesis of sudden death. This forensic case represents a rare case of autoptsy findings of Takayasu syndrome. This finding, in this case, indicates the cause of death.

TA is a chronic inflammatory large-vessel vasculitis that affects the aorta and its major branches. It can affect the vessel, mainly by stenosis, occlusion, and aneurysm, due to the thickening of the vascular wall. The prognosis of patients with TA is good, and the silent asymptomatic phase of this vasculitis can be long [1-6]. Sometimes the onset of this pathology can be fatal, with complications such as aneurysm rupture and congestive heart failure that may develop as a consequence of hypertension, granulomatous myocarditis, coronary heart disease, and/or aortic regurgitation. Sudden death can also be a rare complication of the disease. In the reported case, a correlation between TA and sudden death caused by aortic involvement with coronary embolization is shown. Such association is not a common finding. The correlation between systemic vasculitis and sudden death even in healthy subjects who do not exhibit comorbidity is emphasizedas is the importance of preventing fatal events, especially through cardiological follow-up of patients presenting with these pathologies. In these cases, from a forensic point of view, especially when the cause of death does not macroscopically emerge at the autopsy, it is fundamental that the histopathological investigation is conducted, which may sometimes be crucial in the diagnosis.

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