H94 Sudden Death Due to Takayasu Arteritis: A Case Report

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Learning Overview: After attending this presentation, attendees will understand the clinical features, differential diagnosis, and classification of Takayasu Arteritis (TAK). Attendees will also learn about pathophysiology and about the gross and histopathological autopsy findings of TAK.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by helping to find out the cause of death in sudden cardiac death. A better approach to sudden cardiac death in a tropical region will be discussed, specifically the rare autopsy findings in TAK.

TAK is a chronic vasculitis that mainly affects the aorta, its major branches, and the pulmonary arteries. Since the description of the first case by Mikito Takayasu in 1908, several aspects of this rare disease, including the epidemiology, diagnosis, and the appropriate clinical assessment have been defined. TAK, also known as pulseless disease, occlusive thromboaortopathy, and Martorell syndrome is a chronic inflammatory arteritis affecting large vessels. Vessel inflammation leads to wall thickening, fibrosis, stenosis, and thrombus formation. Symptoms presented as end organ ischemia in TAK. More acute inflammation can destroy the arterial media and lead to aneurysm formation. Early reports suggested that the disease was confined to females from Eastern Asia, but it has now been recognized worldwide in both sexes, although disease manifestations vary between populations. The female-to-male ratio appears to decline from Eastern Asia toward the West. TAK is rare, but most commonly seen in Japan, South East Asia, India, and Mexico. In 1990, it was included in the list of intractable diseases maintained by the Japanese government and to date, 5,000 patients have been registered. A study of North American patients by Hall et al. found the incidence to be 2.6/million/year.[1]

In this case, a 40-year-old woman had chest pain and fell unconscious; she was taken to hospital where she was declared dead. There was no history of hypertension, diabetes, ischemic heart disease, or other significant medical history. On autopsy, she was of average build and there were no external injuries. On dissection of the heart, a papillary growth was found near the left coronary artery ostia, partially blocking the ostia. The papillary growth was submitted for histopathological examination. This examination revealed the papillary growth was a mural thrombus with features of TAK. The cause of death was given as sudden death due to TAK. There is no sudden cardiac death registry in India; in the 21st century such a registry in India would be valuable.

Reference(s):

1. Hall S., Barr W., Lie J.T., Stanson A.W., Kazmier F.J., Hunder G.G. Takayasu arteritis. A study of 32 North American patients. *Medicine* 1985;64:89–99.

Sudden Death, Takayasu Arteritis, Papillary