## G86 Subaortic Aneurysm of the Left Ventricle Complicating Staphylococcal Endocarditis

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After attending this presentation, the audience will learn about an unusual complication of endocarditis, which could lead to sudden death of young people.

This presentation will impact the forensic science community by demonstrating how subaortic aneurysms can complicate staphylococcal aortic valve endocarditis and cause sudden unexpected deaths in young people.

Subaortic aortic aneurysms are rare. Initially thought to be of congenital origin, they may occur as a complication of aortic valve endocarditis. This report describes a subaortic aneurysm in a 21-year-old patient who had a recent history of staphylococcal endocarditis.

A 20-year-old Vietnamese male who worked as a machinist presented to the Emergency Room of a local hospital with a 4-6 days history of fever, chills, and headache. A cardiology evaluation was requested due to a systolic murmur on examination. A transesophageal echocardiography revealed abnormal vegetation of the aortic valve and mild aortic, tricuspid and mitral regurgitation. Blood cultures drawn at the time of the admission grew *Staphylococcus aureus*. *Staphylococcus aureus* endocarditis was diagnosed. The patient was treated with Gentamycin for 14 days, and Nafcillin for seven weeks. The patient was followed by a cardiologist for eight months. The patient refused aortic valve replacement surgery. Ten months after the onset of the first episode the patient was found down at home with shortness of breath and an altered level of consciousness. He was transported to the hospital, but suffered cardiac arrest and was pronounced in the Emergency Room. At autopsy, the patient weighed 149 pounds and measured 67 inches. The external examination showed evidence of therapeutic intervention and no external trauma was noted. The pericardial cavity was filled with 200 mL of clotted blood. The heart weighed 430 grams. There was aneurysmal enlargement at the base of the left ventricle, between the aorta and the left atrium, measuring 3.0 cm in diameter. A ruptured snout measuring 1 cm was located on the superior aspect of the aneurysm. The aortic valve was bicuspid. The aneurysm communicated with the left ventricle just below the right commissure of the two cusps by a triangular opening measuring 1.5 x 1.0 cm. Death was attributed to cardiac tamponade from spontaneous rupture of a subaortic aneurysm.

Subaortic aneurysms can be congenital, infective or traumatic. Congenital weakness of the fibrous annuli could predispose to the development of such aneurysms. A bicuspid aortic valve is another contributing condition. The role of aortic regurgitation as a consequence of infective endocarditis in the aneurysmal formation needs to be considered in our case. It is probable that rupture of the aneurysm resulted from weakness and increased tension of the aneurysmal wall.

**Forensic Pathology, Sudden Death, Subaortic Aneurysm**

 ** Presenting Author*