G65 Polyarteritis Nodosa as a Rare Case of Sudden Death in Postmortem Diagnosis

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After attending this presentation, attendees will understand that, in the correct setting, among the common natural disease causes of sudden death of forensic importance, sometimes very rare diagnoses must be considered. In these cases, systemic vasculitis and systemic autoimmune diseases may play a role. To detect these rare diseases as causes of death, classic histology may need to be supplemented by immunohistochemical and serological examination of tissues and other samples.

This presentation will impact the forensic community by demonstrating the first reported case of polyarteritis nodosa playing a role within the context of a sudden unexpected death.

Worldwide, most unexpected sudden deaths of forensic interest by natural causes are due to cardiovascular diseases. In these cases, acute myocardial infarction and arteriosclerosis of the coronary arteries are the leading entities. In contrast to this, sudden deaths due to vasculitis are a rarity. Polyarteritis nodosa occurs three times more often in men then in women. The diagnosis of the disease is often incorrect.

A 21-year-old old female student from Sweden came to Munich after vacationing in Greece with her parents. She was previously healthy, apart from a cold with fever a few weeks before her holidays which was treated with antibiotics. In Greece she complained of having back pain located near the right kidney and at a disco at Munich she got dizzy and collapsed. The day after, she became increasingly short of breath. In the afternoon she was found lifeless in the apartment of a friend with blood around her nose and mouth. She was brought into a hospital immediately.

She remained unconscious and was diagnosed with hypoxic edema of the brain. The initial presumption of drug intoxication was disproved by toxicological analysis.

She died with unclear symptoms three days after her collapse. As cause of death, the physicians of the hospital signed “Lung failure in pneumonia,” as they suspected an atypical infection of the lungs.

The autopsy showed hemorrhagic lung edema. Weights of the lungs were: right 1085 g, left 1040 g. There was abundant bloody mucus in the respiratory passages, with some coagulated blood in the bronchi. Cultures of tracheal secretions were negative.

The histological examination revealed an intraand extra capillary proliferative glomerulonephritis with crescents and focal segmental necrosis of the glomerular loops consistent with rapidly progressive glomerulonephritis. The lungs showed siderophages indicating older bleeding in addition to the fresh bleeding.

The clinical, laboratory and autopsy findings suggested either Wegener’s disease or microscopic polyarteritis nodosa. The diagnosis was made by analysis of autoantibodies; the lack of cANCA indicated the diagnosis polyarteritis nodosa. The differential diagnosis will be critically discussed.

This may be the first reported case of polyarteritis nodosa playing a role within the context of a sudden unexpected death.

Polyarteritis nodosa, Sudden Unexpected Death, Immunohistochemistry

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