



### **H123 Spontaneous Coronary Artery Dissection as Cause of Death in the Postpartum Period: A Case Report**

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After attending this presentation, attendees will better understand the clinical presentation and pathology of this unusual condition, which primarily presents itself as sudden death or myocardial infarction in young women.

This presentation will impact the forensic science community by alerting professionals to this rare condition that, when misdiagnosed, may lead to death and eventually to medical malpractice judicial processes. Since the frequency is small, it seems important to understand common issues in all cases reported so future strategies of early approach and treatment may be implemented.

Presented here is a case of a 37-year-old woman in the postpartum period after her second caesarean, with no complications during pregnancy or childbirth, without any known previous diseases, who was admitted in the emergency room of Vila Nova de Famalicão's Hospital with chest pain radiating to her upper right limb, associated with sudden visual impairment. On admission, she had electrocardiographic changes suggesting an acute coronary syndrome and elevation of the biological markers of myocardial necrosis. Sustained chest pain demanded morphine administration. Because of hemodynamic instability with hypotension, she was provided with lifesaving thrombolysis with alteplase, after what she entered cardiac arrest, irreversible after 90 minutes of advanced life support.

The autopsy revealed endocardial and left ventricular myocardial macroscopic changes, suggesting ischemia, confirmed histologically, and dissection of the common branch, anterior descending branch, and proximal portion of the circumflex branch of the left coronary artery.

Coronary dissection may be classified as primary or may be secondary to aorta dissection, thoracic trauma, or medical procedures such as coronary angiography or angioplasty.

Primary dissections are very infrequent events and usually occur in young people, especially women, and are many times related to pregnancy or puerperium. This is probably due to the hormonal changes that may damage the tunica media, increasing risk of dissection. Hemodynamic stress of labor may also cause tunica intima disruption, followed by true dissection. Spontaneous coronary artery dissection is usually presented as sudden death, so the diagnosis is often made through autopsy. Myocardial infarction also is a common clinical presentation and the diagnosis is made through coronary angiography. Other presentations, such as prolonged angina, are more infrequent. The most commonly affected coronary artery is the anterior descending coronary artery. Treatment is not yet well established and may include cardiac transplantation, emergency coronary artery bypass grafting, thrombolysis, coronary angioplasty, or intensive care, depending on the extension of the dissection and its clinical repercussion.

#### **Forensic Pathology, Coronary Dissection, Postpartum Death**