



### **G48 Morphological Identification of Right Ventricular Ischemia Determining Right Heart Failure in Cases of Fatal Pulmonary Thromboembolism**

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After attending this presentation, attendees will be aware of the possibility of detecting right ventricular failure due to ischemia in cases of pulmonary thromboembolism

This presentation will impact the forensic science community by making the public aware about the possibility of detecting morphological signs of right ventricular failure due to right heart ischemia.

Pulmonary thromboembolism is a medical emergency that may potentially determine right ventricular failure. Even if the pathophysiology of this phenomenon has been widely investigated, no morphological demonstration of right ventricular ischemic damage determining right ventricular failure in cases of fatal pulmonary embolism has been reported till now.

An immunohistochemical investigation was performed with the antibodies against Fibronectin and C5b-9 in 26 cases of fatal pulmonary thromboembolism (16 ♀, 10 ♂, mean age 56.4 years) as well as in 25 cases of acute myocardial infarction (16 ♀, 9 ♂, mean age 60.8 years) and 20 cases of hanging (3 ♀, 17 ♂, mean age 40.8 years). In each case at least one tissue slide from both cardiac ventricles (wall of the right ventricle, anterior and/or posterior wall of the left ventricle) was available. The reactions were semi-quantitatively classified and the expressions in the groups were compared. In cases of pulmonary thromboembolism the occurrence of positive reactions at the right ventricle was significantly higher than in cases of myocardial infarction and global hypoxia due to hanging. This may indicate the primary ischemic involvement of the right ventricle and be interpreted as morphological sign of right ventricular failure.

**Right Ventricular Failure, Acute Pulmonary Hypertension, Immunohistochemistry**