



G12 A Fatal Case of Pulmonary Tumor Embolism Due to Primary Cervical Carcinoma

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The goal of this presentation is to examine the histopathological aspects of late intracardiac metastases and of fatal pulmonary tumor embolism from previously removed carcinoma of the cervix, with diffuse and aggressive involvement of the right side of the heart and the pulmonary circulation.

This presentation will impact the forensic science community by describing the necessity of suspecting a myocardial metastasis in patients with an intracardiac mass and a history of uterine cervical cancer, with signs and symptoms of right cardiac failure and/or pulmonary embolism. According to scientific literature, early diagnosis is the only available strategy to improve prognosis in these cases.

Intracardiac metastases, although rare, can occur in patients with cancer. Manifestations include signs and symptoms due to intracardiac obstruction and low cardiac output or pulmonary embolism. Metastases may reach the heart via the lymphatic or hematogenous route or by direct or transvenous extension. Lymphatic spread tends to give rise to pericardial metastases, whereas hematogenous spread preferentially gives rise to myocardial metastases.¹ They may imitate valvular heart disease or cause cardiac failure, ventricular or supraventricular heart rhythm disturbances, conduction defects, syncope, embolism, or pericardial effusion. For carcinoma of the cervix, the most common sites of extrapelvic metastasis are the lungs, bones, or the cervical or supraclavicular lymph nodes. Cardiac metastasis is very rare with a frequency ranging from 1.6% to 8.0% and has a poor prognosis.²

This presentation reports a rare case of intracardiac metastases and fatal pulmonary tumor embolism caused by hematogenous metastases that mimicked pulmonary thromboembolism. A 54-year-old female had a history of uterine cervical carcinoma three years earlier, and was treated with radical surgery, chemotherapy, and radiation therapy. She was admitted to the hospital for persistent cough, hemoptysis, dyspnea, chest pain, and signs of right heart failure. A chest X-ray showed bronchopneumonia. A Computed Tomography (CT) scan of the chest demonstrated the presence of multiple pulmonary embolic phenomena involving the main pulmonary artery, the right lower and middle lobe arteries, and the left lower lobe artery with associated infarctions. Thrombotic material was also described within the heart. An echocardiogram showed an intracardiac mass which caused almost complete obstruction of the right ventricle from the tricuspid valve to the right pulmonary artery. During a right ventricular wall biopsy, the woman died and an autopsy was performed. The internal examination revealed the presence of a significant tumor mass occupying the entire right ventricle, infiltrating its free wall and the interventricular septum. The mass protruded into the pulmonary artery. Histological findings showed a poorly differentiated squamous cell carcinoma, compatible with primitive cell carcinoma of the cervix. Dissection of the pulmonary vessels revealed bilateral massive pulmonary embolism. The largest one measured 6cm in length and was histologically similar to the heart mass.

This case suggests that tumor embolism must be included in the differential diagnosis of respiratory symptoms in patients with a history of malignancy.

Pulmonary Tumor Embolism, Primary Cervical Carcinoma, Intracardiac Metastases