H180 Trousseau's Syndrome in Forensic Medicine

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Learning Overview: After attending this presentation, attendees will be able to: (1) recognize migratory thrombophlebitis associated with malignancy in forensic cases, (2) apply principles of thromboembolic processes to cause and manner of death, and (3) provide usable information to survivors about unexpected medical conditions.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by helping improve competence to correlate thromboembolic phenomena with carcinoma and improve patient outcomes by providing detailed information for reports that answers more questions and provides a valuable mechanism of death.

In 1865, Armand Trousseau described a syndrome of migratory thrombophlebitis as a complication of carcinoma. Understanding this syndrome may provide insight to the underlying mechanism of death in certain cases. Two patients were encountered who died from cardiovascular disease that was proximally related to complications of occult gallbladder carcinoma and the thromboembolic complications of Trousseau's syndrome.

The first subject was an 83-year-old White woman who was admitted to the hospital for congestive heart failure. She died shortly after admission. Autopsy demonstrated evidence of heart failure with thrombosis of the left anterior descending coronary artery, but also an adenocarcinoma of the gallbladder. It was concluded that the patient died from complications of an acute thrombosis of the left anterior coronary artery that could be related to the thromboembolic phenomenon of Trousseau's syndrome.

The second subject was a 76-year-old man who had undergone cardiac bypass surgery one-week antemortem. He had returned home and died after a short walk. At autopsy, numerous formed thromboemboli were recovered from the pulmonary arteries. Incidentally, the gallbladder had a well-differentiated adenocarcinoma. It was concluded that the patient died from pulmonary thromboembolism, which could have been related to thromboembolic phenomena of Trousseau's syndrome.

In the United States, gallbladder carcinoma has an incidence of 1.13 cases per 100,000 population. Women are three times more likely to develop gallbladder carcinoma than men. The most consistent anatomical correlation with gallbladder carcinoma is cholelithiasis. The development of Trousseau's syndrome, which can lead to thromboembolism, can occur in 1%–11 % of cancer patients. Pancreatic cancer is most highly correlated with Trousseau's syndrome and Pulmonary Embolism (PE), but other malignancies are associated with this syndrome. Trousseau's syndrome can be seen as a chronic form of disseminated intravascular coagulation or a prothrombotic state, in which cancer leads to hypercoagulability by various mechanisms. The role of thromboembolism in these patients establishes a mechanism of death by forming blood clots that obstructed critical blood vessels.

While medical data sufficient to affirm a cause of death based on clinical circumstances were available in the present cases, autopsies provided more information about the mechanism of death in these patients, and provided comfort to the survivors in both families that the outcomes were more bearable, especially in light of the autopsy findings, in which an elusive, serious cancer was found, which would have caused considerable morbidity and likely eventual fatality if the family member had not died beforehand from competing causes.

Forensic Science, Thromboembolism, Gallbladder Neoplasms

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