Title: Trousseau’s Syndrome: Hypercoagulability and Pancreatic Carcinoma

Author: Lindsay Cote

Background Information:

A 73-year-old Caucasian female presented at a local hospital complaining of acute left-sided weakness. A computed tomography (CT) angiogram of the head was performed and revealed that there was an acute thrombus located within the distal right horizontal segment of the middle cerebral artery (MCA) and also the proximal sylvian segment of the MCA. This was a major risk to a large area of her brain that is supplied by the right MCA. Subsequently, she had been doing physical and occupational therapy for rehabilitation. Deep vein thrombosis (DVT) of the left lower extremity was documented on two venous duplex sonograms during her visit a few weeks prior in early September. On September 17th, the patient was transferred from rehabilitation to the coronary care unit after she became acutely dyspneic, hypotensive, and bradycardic. Soon after she went into asystole and passed away.

Trousseau’s Syndrome (also known as migratory thrombophlebitis) occurs in approximately 10% of patients with pancreatic adenocarcinoma [1]. It is attributed to the elaboration of platelet-aggregating factors and pro-coagulants from the tumor or its necrotic products. A hypercoagulable or prothrombotic state of malignancy occurs due to the ability of tumor cells to activate the coagulation system [2].

Thromboembolic disease is often one of the earliest clinical signs of an underlying malignancy. In 1865, Trousseau first noted “in cancer a special condition of the blood predisposed to spontaneous coagulation even in the absence of inflammatory reactions.” [2]

Methods:

A complete postmortem examination revealed a large saddle embolus measuring 5.7cm, which involved the bifurcation of the pulmonary artery along with smaller thrombi in the lesser vessels, confirming the clinical suspicion of an acute pulmonary embolus. The right lung was noted to have a large vessel thrombus with infarction, associated congestion (600g), and 800mls of pleural effusion. Unexpectedly, the pancreas revealed a primary 2.7cm mass with metastatic foci involving the diaphragm (10x8cm), along with three other nodules of the small bowel mesentery, and small bowel serosa. Pertinent sections were taken for permanent microscopy.

Results:

Histologic sections of the pancreatic mass revealed it to be moderately differentiated infiltrating adenocarcinoma. Pancreatic adenocarcinoma often grows silently, so that by the time it is diagnosed, it will rarely be curable. Only 2-4% of cases have a 5-year survival rate, and 90% will die within 1 year [1].
The rates of pancreatic cancer have been slowly increasing over the past 10 years, currently accounting for 5% of all cancer deaths in the United States [3]. According to the American Cancer Society, it is estimated that, in the United States about 38,460 people (19,480 men and 18,980 women) will have died of pancreatic cancer in 2013 and the lifetime risk of developing pancreatic cancer is about 1 in 78 (1.47%) [3].

Conclusion:

As a pathologists’ assistant, it is our responsibility to be aware of signs and symptoms associated with disease. This is especially true for pancreatic cancer, since many cases may be diagnosed post-mortem. Relevant clinical histories in pancreatic cases include: diabetes mellitus, pancreatitis, jaundice, and/or Zollinger-Ellison syndrome. The patient may also present with the following symptoms: abdominal or back pain, bowel obstruction, weight loss, malaise, and/or weakness [4]. In the case presented, and in many other cases, we are able to discover underlying diseases and unexpected causes of death. This makes our profession a vital part of the medical community.

Works Cited


