

TB or not TB- The Many Masks of Esophageal Cancer

Esophageal cancer is an aggressive gastrointestinal malignancy, and the fifth most common cancer in the USA, with low survival outcomes even with appropriate treatment. Tuberculosis is the number one infectious cause of death worldwide, classically associated with cavitory lesions seen on imaging. These two diseases are vastly different; however, they are similar in requiring high suspicion and prompt management. On initial presentation, it can be difficult to assess what is contributing to the patient's concerns, but, with step-by-step investigations and early involvement of various specialties can help.

Our patient is a 55-year-old male, with past medical history significant for COPD, T2DM, and an active user of chewing tobacco. He initially presented with dyspnea, generalized weakness, and productive cough with night sweats ongoing for several weeks. He was treated as an outpatient with azithromycin, without relief. The initial vitals were unremarkable. Labs on arrival were significant for leukocytosis of 19.8K/uL, hemoglobin of 7.4g/dl, glucose 317mg/dl, magnesium 1.5mg/dL and hypoalbuminemia. CXR was worrisome for cavitory lesions located in the right upper lobe. CT chest with contrast showed a large cavitation in the right upper lobe measuring 4cmx3.5cm in addition to smaller cavitory lesions. Infectious workup did not reveal any viral or bacterial etiology. Given the cavitory lesion, we were concerned about Mycobacterium tuberculosis or fungal infection however, three sputum AFB and QuantiFERON gold were negative, as well as 1-3 beta-D-glucan, Aspergillus, Coccidioides, Histoplasma and Blastomyces were all unremarkable. On further questioning, patients endorsed progressive dysphagia, intermittent melena, unintentional weight loss in addition to the respiratory symptoms, and strong family history of colon cancer; Gastroenterology was consulted. Anemia workup revealed MCV 80fL, iron 19ug/dL, TIBC 172ug/dL, iron saturation 11%, ferritin 314ng/mL, leading to concerns of iron deficiency anemia and gastrointestinal blood loss.

Bronchoscopy with broncho-alveolar lavage (BAL) in tandem with his EGD and colonoscopy was done, revealing Barrett's esophagus with dysplastic changes, with high-grade metaplasia/dysplasia, no apparent carcinoma in addition to reactive gastropathy. Bronchoscopy showed reactive bronchial mucosa with acute and chronic inflammation with BAL showing neutrophilic inflammation. Colonoscopy was unsuccessful due to poor bowel prep. Patient was empirically treated with Zosyn, then Levaquin, without resolution of his symptoms. Given the lack of improvement and unrevealing workup after 14 days, repeat bi-directional scope was planned. Colonoscopy was unremarkable with small polyps removed. Interestingly, repeat EGD showed 1.5cm ulcerated, pitted esophageal lesion with esophageal primary invasive adenocarcinoma. Medical and radiation oncology, as well as surgery, ID, pulmonology and gastroenterology were all involved in further management of this patient's malignancy.

In this patient, the strong suspicion for both tuberculosis infection versus gastrointestinal malignancy led to prompt involvement of multiple specialties as these diseases are linked with increased disease burden and high mortality. Doing tandem procedures reduces procedural risks as well. Keeping a wide differential is important, because even if the initial workup was negative, in this case, attempting the invasive procedures again given strong suspicion was essential to not miss the underlying malignancy.