

Gastric Cancer

abstr 0841

Signet Ring Cell Metastasis with Unknown Primary

Roja Chimakurthi, Lalit Kalra, Linda Green

Prince George's Hospital Center, Cheverly, MD, USA

Background: Carcinoma of unknown primary (CUP) is a biopsy-proven (mainly epithelial) malignancy for which the anatomic site of origin remains unidentified after an intensive search. These cases account for approximately 3% to 5% of all cancer cases. Signet ring cell carcinoma is a poorly differentiated mucin-producing adenocarcinoma usually of gastric origin and is one of the rare etiologies of carcinoma of unknown primary (CUP). We present a case where the diagnosis of malignant ascites was initially missed and later discovered to be a case of CUP.

Case: A 37-year-old Hispanic man presented with history of chronic alcoholism, alcoholic liver disease, and recurrent ascites admitted with worsening ascites, significant loss of weight, loss of appetite, worsening fatigue, and scrotal swelling for a period of 6 months. Physical examination was significant for ascites and right scrotal swelling with enlarged testes. Abdominal paracentesis revealed exudative fluid with atypical cells. Scrotal ultrasound showed complex epididymal cyst on the right. A right inguinal orchiectomy and testicular biopsy showed metastatic adenocarcinoma with signet ring cell features. Upper gastrointestinal (GI) endoscopy and colonoscopy were normal. Positron emission tomography (PET)/computed tomography (CT) scan was inconclusive. Exploratory laparotomy revealed diffuse carcinomatosis involving most of the abdominal organs, multiple sites of bowel obstruction, and frozen retroperitoneum. Omental biopsy confirmed the diagnosis of metastatic desmoplastic signet ring cell adenocarcinoma. Immunohistochemical tests showed tumor positive for mucicarmine, Ber EP4, CEA, pan-cytokeratin, and negative for calretinin and cytokeratin 5/6, favored metastatic adenocarcinoma likely from gastrointestinal tract. The patient was referred to hospice care and subsequently died within a few days.

Discussion: This case illustrates the importance of diagnosing malignancy at the time of patient presentation. The diagnosis in this case was challenging especially when the PET/CT was inconclusive. The patient already had extensive metastatic disease when the diagnosis was made. Despite the availability of histopathology of signet ring cells in metastatic tissues and immunohistochemical tests, diagnosis of the primary tumor remained unknown until the disease was advanced, and the patient died without any treatment. DNA microarray, reverse-transcription polymerase chain reaction (RT-PCR), and immunohistochemical tests can be used to diagnose the primary tumor in patients with CUP, however, more intensive research is required in this field.