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A Case of Multifocal Burkitt Lymphoma in an Immunocompromised Patient

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ABSTRACT

Non-Hodgkin lymphoma is made from B-cell lineage and include extra-nodal marginal lymphomas, follicular lymphomas, mantle cell lymphoma, diffuse large B-cell lymphoma and Burkitt lymphoma. Burkitt lymphoma is associated with Epstein Barr Virus and Human Immunodeficiency Virus. Although it is common for other B-cell lymphomas to develop in the stomach, it is less common for Burkitt lymphoma tumors to manifest there. Additionally, primary and/or secondary involvement of the duodenum, pancreas and intestines is very rare in Burkitt lymphoma. Herein we present a male diagnosed with extensive Burkitt lymphoma of the bone, lymph nodes, pancreas, small intestine, duodenum and stomach.

INTRODUCTION

B-cell malignancies can be compromised of extra-nodal marginal lymphomas, follicular lymphomas, mantle cell lymphoma, diffuse large B-cell lymphoma and Burkitt lymphoma (BL). Of these, diffuse large B-cell lymphoma is the most common histological subtype and only 1-2% of non-Hodgkin lymphoma (NHL) are BL. BL is the 8th most common cancer in men and 11th most common cancer in women, accounting for approximately 4% of all cancers. It is widely recognized that both EBV and HIV are linked to BL, however in those with HIV/AIDS, the CD4 count is typically greater than 200 without presence of concomitant opportunistic infections. Both viruses are prevalent in all three types of BL, including endemic, sporadic and immunodeficiency-associated. Although diffuse large B-cell lymphoma commonly affects the gastrointestinal tract and colon, it is less common for BL to manifest there. Other types of primary gastric lymphoma include mantle cell or marginal zone B-cell lymphoma (MALT). Primary NHL of the GI tract accounts for less than 0.9% of all gastrointestinal tumors, and are typically observed in patients with a history of IBD or radiation. Up to 30-40% of extra-nodal manifestations of all NHL's occur in the stomach, however this is usually due to secondary involvement. Primary BL of the GI tract is very rare and GI symptoms predominate. Moreover, pancreatic and duodenal involvement account for less than 1% of NHL tumor growth, even in secondary disease. The incidence of pancreatic involvement in BL specifically, is not known because it is so rare, and the only literature is from pediatric cases.

CASE PRESENTATION

A 52 YO M PMH HIV, AIDS, HCV, IV drug abuse presented with acute L sided back and abdominal pain. On arrival he was hypotensive, cachectic with temporal wasting and severe, diffuse abdominal tenderness and tenderness of his L paraspinal muscles and lumbar spine. Labs were significant for leukocytosis, normocytic anemia, AKI, elevated ALP, LDH and ESR, and UDS positive for cocaine and opiates. CT A/P showed a fracture of the L 9th rib and asymmetry of the gastric wall. MRI revealed multifocal osteomyelitis with an epidural abscess spanning T7-T9. He underwent I & D and pathology of the epidural abscess and ribs revealed Burkitt Lymphoma. ERCP/EUS findings included esophageal candidiasis, multiple masses and nodules within the stomach, duodenum, and pancreas with strictures throughout the CBD and lower third of the main bile duct. A biliary sphincterotomy was performed and biopsies of all specimens were positive for Burkitt Lymphoma. His hospitalization was complicated by a subdural hemorrhage, initially thought to be CNS involvement however MRI brain and CSF flow cytometry did not reveal brain metastasis. A bone scan showed increased uptake in the distal shaft of the L humerus and femur, and a CT chest revealed a 4 mm nodule, all concerning for metastasis. He also developed SBO for which he was treated with R-CODOX/R-IVAC chemotherapy to reduce tumor burden. G-CSF and intrathecal methotrexate were administered. His SBO resolved and he was discharged home to follow up with Oncology for further management. .

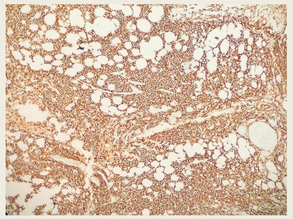

Figure 1. Epidural biopsy immunohistochemical stain positive for CD20 B-cells

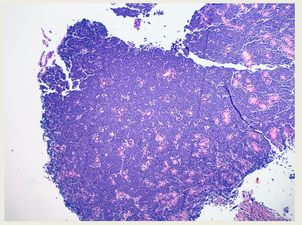

Figure 2. Duodenal biopsy demonstrating necrosis and lymphocytic and macrophages infiltration on H & E stain.

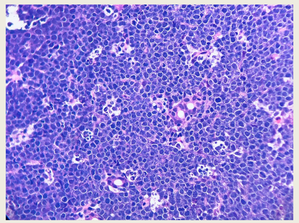

Figure 3. Duodenal biopsy demonstrating Starry sky pattern on H & E stain.

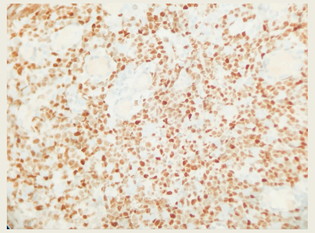

Figure 4. Stain for C-myc positivity from the duodenum

DISCUSSION

It is unknown if our patient had primary or secondary involvement of his gastrointestinal tract because he was found to have pancreatic, duodenal, gastric, lymphatic and bone tissue positive for Burkitt Lymphoma. Additionally, he had both symptoms of gastric and colonic obstruction as well as pain in the abdomen and back, localized to the side of the malignancy. B-cell lymphoma of the colon is present in less than 0.5%, however BL is rarer. If found, patients typically present with intestinal obstruction warranting surgery, however our patient was treated with chemotherapy to reduce tumor burden. Lastly, when BL is linked to HIV, patients typically have a CD4 count greater than 200 without concomitant opportunistic infections. Our patient's CD4 count was 114 and he was actively infected with esophageal candidiasis.

CONCLUSIONS

In summary, we present an HIV patient with low CD4 counts, who presented with localized pain and intestinal obstruction and was diagnosed with Burkitt lymphoma of the bone, lymph nodes, duodenum, stomach, pancreas and small intestine. The primary site of Burkitt lymphoma is ultimately unknown due to his complex presentation, however primary and/or secondary involvement of the duodenum, pancreas, stomach and intestine is very rare in non-endemic Burkitt lymphoma.

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