Lymphoma Masquerading as Pneumonia with Acute Renal Failure: A rare clinical and radiological presentation of diffuse large B cell gastric lymphoma (DLBCL)

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Lymphoma Masquerading as Pneumonia with Acute Renal Failure:
A rare clinical and radiological presentation of diffuse large B cell gastric lymphoma (DLBCL)

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INTRODUCTION:

Lymphoma presenting as either pulmonary Ground-glass opacity (GGO) or renal failure is extremely rare. We present a case of diffuse large B cell gastric lymphoma (DLBCL) which presented with pulmonary GGO and acute renal failure. GGO is a common but a nonspecific finding on high-resolution CT scans. GGO includes a spectrum of diseases including inflammatory disease, fibrosis, primary neoplasms and metastasis. Acute renal failure by a lymphoma infiltration of the kidney is extremely rare because of the absence of lymphoid tissue in normal kidneys.

CASE:

A 61 year old female presented with 1 month history of worsening dyspnea, abdominal pain and fatigue. Physical exam revealed diffuse decrease in breath sounds bilaterally.

Initial blood work revealed a hypochromic microcytic anemia with hemoglobin of 10.5, normal white cell count and a creatinine of 1.7 mg / dL. Chest x-ray showed bilateral infiltrates and CT chest revealed bilateral diffuse pulmonary GGO (Figure 1). She was initiated on treatment for community acquired pneumonia and acute renal failure. CT abdomen and pelvis showed multiple patchy areas of decreased enhancement in both kidneys, noting focal areas of mild enlargement in these regions and loss of corticomedullary differentiation, left greater than right which was suspicious for renal lymphoma (Figure2).

Since 2 weeks of not responding to treatment with antibiotics patient received a BAL which was unrevealing and further underwent video assisted (VATS) biopsy. Histopathology was positive for dense lymphoid infiltrate composed of small mature lymphocytes and frequent atypical transformed cells (Figure 3A, 3B). Immunohistochemisty proved conclusively the lesion to be DLBCL. Patient further underwent upper GI endoscopy which revealed an irregular 1cm gastric antral ulcer, the biopsy of which confirmed the diagnosis of DLBCL of the stomach with metastatic involvement of the lung (Figure 4A,4B). Patient is currently on chemotherapy.

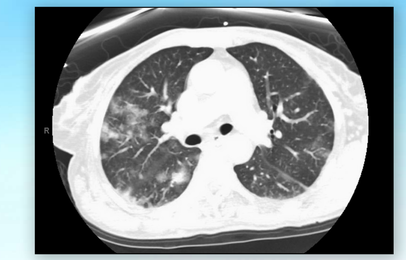


Figure 1: CT chest showing diffuse pulmonary GGO.

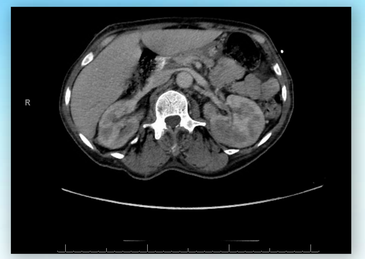
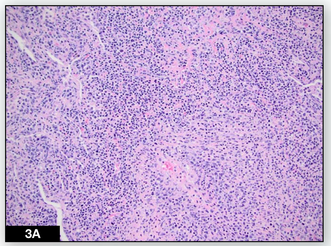
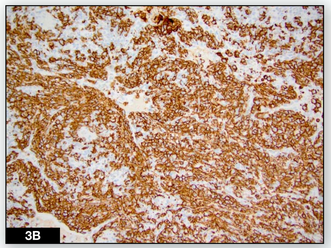
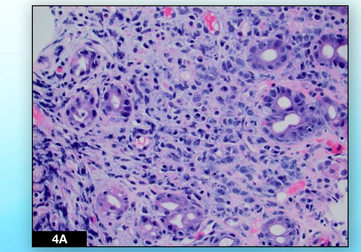


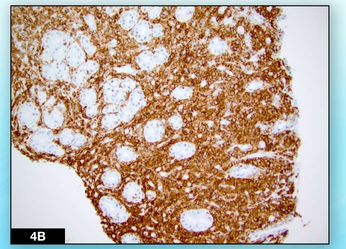
Figure 2: CT abdomen showing patchy decrease in enhancement of the kidneys, left greater than right.





Figures 3A and 3B: Histologic and immunohistochemical features of the lung biopsy specimen. (A) Dense lymphoid infiltrate composed of small mature lymphocytes and frequent large atypical transformed cells. (B) Atypical lymphoid cells show uniform expression of CD20, PAX-5 and CD45.





Figures 4A and 4B: (A) Diffuse large B cell lymphoma involving gastric mucosa. (B) immunohistochemical stain show the atypical mononuclear infiltrate which are positive for CD20.

DISCUSSION:

Involvement of the pulmonary parenchyma and kidneys as the initial presentation of DLBCL is an extremely rare clinical entity [1]. The most common radiological presentation of pulmonary lymphoma are lung nodules and consolidation with air bronchograms[2,3]. Though a rare occurrence, lymphoma should be considered in the differential diagnosis of pulmonary GGO. They could likely reflect the infiltration of lymphoma cells into the pulmonary interstitial spaces. A misdiagnosis with interstitial pneumonia is common due to non specific clinical signs and symptoms[4]. We recommend a low threshold for early lung biopsy if no clinical improvement is seen with antibiotic treatment in pulmonary GGO.

Acute renal failure by a lymphoma infiltration of the kidney is extremely rare. Renal involvement is extremely uncommon and is a matter of debate because of the absence of lymphoid tissue in normal kidneys [5]. While improvement in lymphoma induced kidney failure is typical after treatment of the underlying malignancy, complete recovery to baseline function is infrequent. Moreover, the presence of metastatic lymphoma in the kidney indicates advanced disease, and carries a poor overall prognosis.

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