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Case Report

An Extraordinary Cause of Krukenberg Tumor in Immuncompetent Adult Woman

Digdem OZER ETIK[1], Nuretdin SUNA[1], Pelin BORCEK[2], Ahmet Sedat Boyacıoglu[1]

[1]Başkent University School of Medicine, Ankara Hospital, Department of Gastroenterology

[2]Başkent University School of Medicine, Ankara Hospital, Department of Pathology

*Corresponding author: Digdem Ozer Etik, Başkent University School of Medicine, Ankara Hospital, Department of Gastroenterology, Cevher Sok. No: 7/12 Kurtulus-Ankara 06511 Turkey. Tel: +905332402368; Email: digdemozer@hotmail.com.

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QUESTION:

A 34-year-old woman presented with a one month history of persistent epigastric pain, nausea, early satiety and abdominal distension. She looked pale and suspected ascites was on her abdominal examination. A mild normochromic, normocytic anemia (Heamoglobin: 11.2 g/dL, mean corpuscular volume: 84 fL, mean corpuscular heamoglobin: 28 pg) was found on complete blood count. Serum *lactate dehydrogenase* was increased with 890 U/L, C-reactive protein 165 mg/dL, uric acid 11 mg/dL and CA-125 1242 IU/mL. Abdominal computed tomography revealed ascites, irrregular thickening and heterogenous contrast enhancement of peritoneum, marked thickening of the gastric body wall and a 8 cm solid left adnexal mass (Figure 1).

Figure 1: Abdominal computed tomography scans shows a 8-cm in diameter solid tumor located on the left adnexial area and presence of ascites.

There was no evidence of lymph node enlargement in the pelvic, paraaortic, celiac or mesenteric regions. Upper gastrointestinal endoscopy showed multiple, 0.5-1cm in diameter, whitish, raised nodules with central pitting, especially involving gastric corpus and fundus as well as multiple similar lesions throughout the duodenum and proximal jejunum (Figure 2-3).

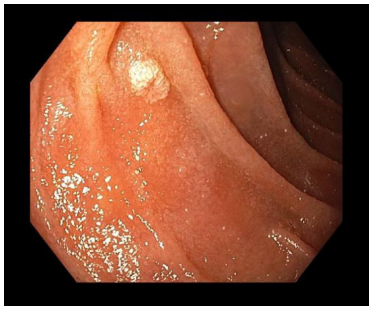

Figure 2: Endoscopic appearance of 0.5-1cm in diameter, whitish, raised nodules with central pitting in duodenum.

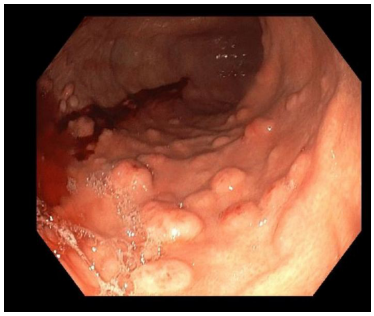

Figure 3: Endoscopic appearance of 0.5-1cm in diameter, whitish, raised nodules with central pitting in gastric body.

Answer: Gastroduodenal Burkitt Lymphoma

After multiple endoscopic biopsies from gastric and duo¬denal nodules were taken, histopathologic examination disclosed extensive and monotonous infiltration by neoplastic lymphocytes. Malignant cells were medium sized with round nuclei, coarse chromatin pattern, a few small nucleoli and basophilic cytoplasm (Figure 4).

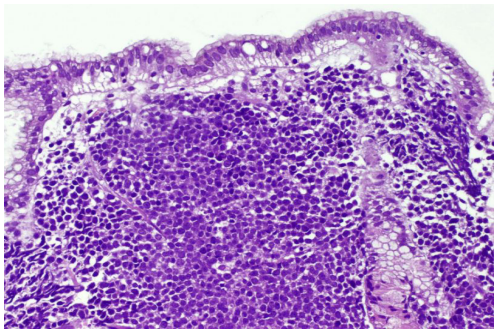

Figure 4: Diffuse infiltration of gastric mucosa by medium sized neoplastic lymphocytes (Hematoxylene and eosin stain X 200).

Numerous mitotic and apoptotic figures were noted. On immunohistochemical evaluation, these cells were intensely positive for B-cell-associated antigens (CD 20, CD 10), B cell lymphoma 6 protein (Bcl-6) and negative for bcl-2, TdT and cyclinD1. Furthermore, the proliferation index by Ki-67 was close to 100% (Figure 5).

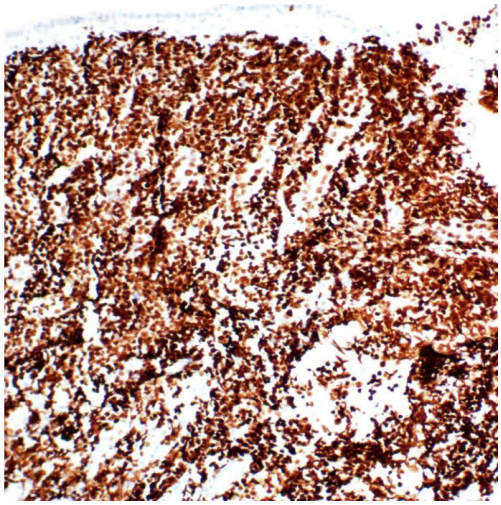

Figure 5: Ki-67 proliferation index approximating 100% (Ki-67 X 100).

Morphological and immunohistochemical features were quite obvious relevant to Burkitt lymphoma (BL). She had no peripheral lymadenopathy, human immunodeficiency virus serology test was negative. Then she underwent an explorative laparoscopic sugery for left adnexial mass. Histopathologic examination of ovary was consistent with BL too.

BL is a particularly aggressive non-Hodgkin lymphoma (NHL) and accounts for solely 5 % of B cell-NHL in adults (1). BL is categorized into three variants: endemic BL, sporadic BL, and HIV associated BL (2). Sporadic BL commonly presents in extranodal sites or as acute leukemia (3). Gastrointestinal(GI) tract constitutes the most common extranodal sites of sporadic BL (3). Although the most common gastric lymphomas are Mucosa-Associated Lymphoid Tis¬sue (MALT) and diffuse large B cell lymphomas, we report here on a case of gastroduodenal involvement by BL in an immu¬nocompetent adult woman (4).

Primary ovarian BL is an uncommon entity and is observed in 0.5% of NHL cases and 1.5% of ovarian neoplasms (5). The rarity of lymphoma in ovary is because of absence of lymphoid tissue within the ovary (5). However, there was synchronous involvement of stomach and ovary in this patient, especially in the absence of other sites of disease. Krukenberg tumor is adenocarcinoma metastasis from a primary malignancy of the gastrointestinal tract to mostly bilateral ovary (6). The gastro-ovarian axis is a unfamiliar route of spread in case of gastroduodenal lymphoma as well as in our patient. Thus, it's more plausible that the term of "Krukenberg syndrome" should be used to describe the metastatic ovarian neoplasm with any primary tumor located in the gastrointestinal tract (6).

This BL case had some contrarian features with the patient's age, no immunocompromised status, the presence of non-spesific gastroduodenal nodules and extraordinary Krukenberg tumor.

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