CASE REPORT

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Atypically Gastric Tumor with Unexpected Evolution: A Case Report

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ABSTRACT

We present the case of a 62 year old male with no relevant medical history, who for the last two months had been complaining of dysphagia for solids and liquids, marked physical fatigue, oliguria. Clinical examination revealed palor and dehydrated skin, as well as a tumoral mass of 10/10 cm palpable in the upper abdomen. Upper digestive endoscopy was performed, showing a vegetant lesion of 6 cm on the gastric angle, with a central ulcer of 4 cm. The oesophagus and duodenum were normal, and Helicobacter pylori test was negative. Histological exam from the gastric lesion revealed diffuse large-cell malignant lymphoid tumoral proliferation, with tumoral cells infiltrating the mucosa between the glands. Immunohistochemical analysis diagnosed B cell lymphoma. CT scan of the thorax, abdomen and pelvis was performed, revealing multiple tumors involving the gastric walls, the posterior parietal peritoneum, the intra-peritoneal fat, the pancreatic tissues and the right antero-inferior mediastinum, as well as multiple adenopathies on both sides of the diaphragm and ascites. We performed paracentesis, and malignant cells were detected in the peritoneal fluid. Bone marrow biopsy was normal. The patient was referred to the hematology department for treatment. He received chemotherapy including CHOP followed by RICE with the disappearance of the gastric tumor on upper endoscopy and the disappearance of peritoneal, mediastinal and pancreatic region tumors with the persistence of a circumferential thickening of the horizontal gastric region walls on CT reevaluation.
Key words: gastric lymphoma, large B cells, chemotherapy

INTRODUCTION

The gastrointestinal tract is the most common site of extra-nodal non-Hodgkin's lymphoma. The most commonly involved organ is the stomach. 79% of these lymphomas are of B-cell origin, 16% of T-cell origin and 5% are unclassifiable. Revised European-American Lymphoma (REAL) classification for lymphomas includes in addition: morphologic descriptions, as well as immunological, cytogenic and molecular information. Gastric lymphomas include MALT-type lymphomas and diffuse large B-cell lymphomas.

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CASE REPORT

A 62 year old male patient was addmited to the Internal Medicine Department, Fundeni Clinical Institute for investigation, complaining of dysphagia for solids and liquids, physical fatigue, oliguria and 10-kilogram weight loss in the last two months. The patient had no relevant medical history. At admission the patient presented altered general status. Physical examination was significant for palour and sweaty and dehydrated skin, persistent skin fold; no peripheral lymph nodes were detected. At abdominal palpation we detected a mass of 10/10 cm in the upper level, while abdominal percussion revealed the presence of ascites. Laboratory testing included complete blood count with differential, chemistry panel, coagulation panel, urinalysis. Blood tests were normal, except for increased levels of serum creatinine and urea. We performed upper gastrointestinal endoscopy that revealed a vegetant lesion of 6 cm on the gastric angle with a central ulcer of 4 cm, and gastric biopsy was obtained. We completed the investigations with computerized tomography (CT) scan of the thorax, abdomen and pelvis. The CT scan revealed widespread lymphadenopathies involving the chest/mediastinum, abdomen and pelvis. CT also showed moderate bilateral pleuresia, ascites, and multiple tumors involving the gastric walls, the posterior parietal peritoneum, the intra-peritoneal fat, the pancreatic tissues and the right antero-inferior mediastinum (*fig. 1 a, b*). Paracentesis was performed, and cytology from the peritoneal liquid detected malignant cells. The gastric biopsy showed: diffuse large-cell malignant lymphoid tumoral proliferation, with tumoral cells infiltrating the mucosa between the glands (*fig. 2*). Immunohistochemistry tests showed tumoral proliferation with B cells positive for CD 20 and CD 10, with a Ki67 proliferation index of 90-95%, and negative for CD 3 (T cells) (*fig. 3 a, b*); conclusion: diffuse large B-cell non-Hodgkin malignant lymphoma. The bone marrow biopsy was normal. The patient was referred to the hematology department for treatment. He received chemotherapy including CHOP (cyclophosphamide, doxorubicin, oncovin and prednisone), followed by RICE (rituximab, ifosfamide, carboplatine, etoposide) for 4 cycles with the disappearance of the gastric tumor on upper endoscopy and the disappearance of peritoneal, mediastinal and pancreatic region tumors with the persistence of a circumferential thickening of the horizontal gastric region walls on CT reevaluation (*fig. 1 c, d*).

DISCUSSIONS

The gastrointestinal tract is the most common site of extranodal non-Hodgkin's lymphoma. The most commonly involved organ is the stomach. 79% of these lymphomas were of B-cell origin, 16% of T-cells origin and 6% unclassifiable. Revised European-American Lymphoma (REAL) classification for lymphomas includes in addition: morphologic descriptions, immunologic, cytogenic and molecular information. Gastric lymphomas include MALT-type lymphomas and diffuse large B-cell lymphomas. Gastric Diffuse Large B-cell Lymphoma (DLBCL) can develop from low-grade MALT type lesions or may also arise de novo, without an accompanying low grade component. The distinction

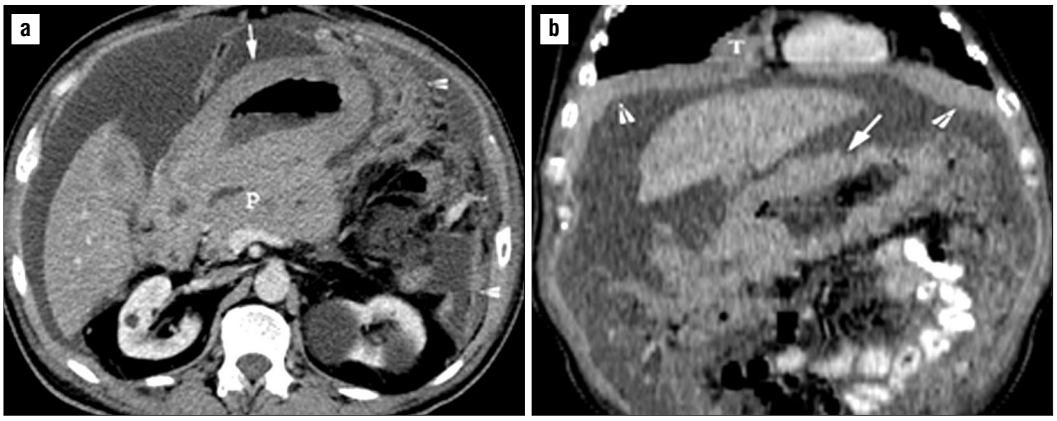

Figure 1 - Enhanced CT evaluation (Ist examination - at admission) : multiple tumors involving the gastric walls (arrows), the posterior parietal peritoneum (arrowhead), the intraperitoneal fat, the pancreatic tissues (P), the right antero-inferior mediastinum (T).
a) Axial plane; b) Coronal plane

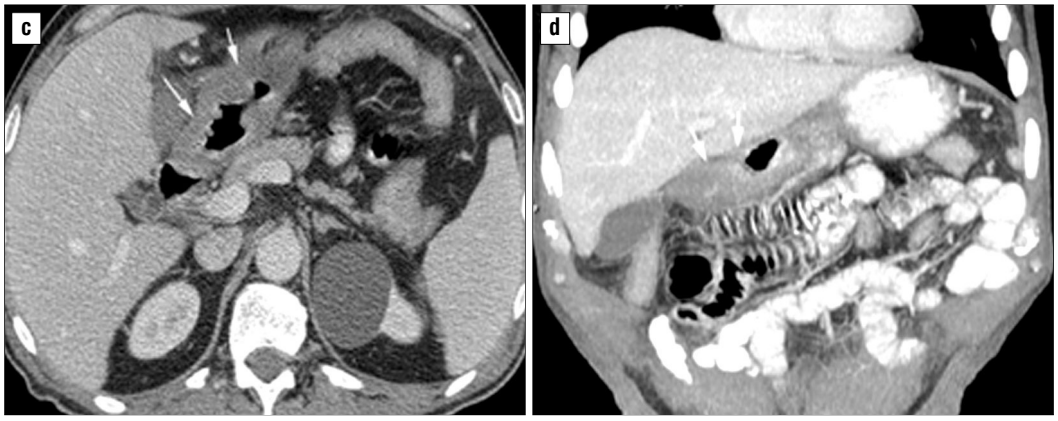

Figure 1 - Enhanced CT evaluation (IInd examination- after treatment): disappearance of peritoneal, mediastinal and pancreatic region tumors with the persistence of a circumferential thickening of the horizontal gastric region walls (arrows).
c) Axial plane; d) Coronal plane

between transformed MALT-type lymphomas and DLBCL arising de novo is impossible (1). B-cell restricted markers (CD19, CD20, CD22) are expressed consistently in DCBCL. An important aspect of MALT lymphoma is the presence of lymphoepithelial lesions: infiltration and destruction of glandular structures by aggregates

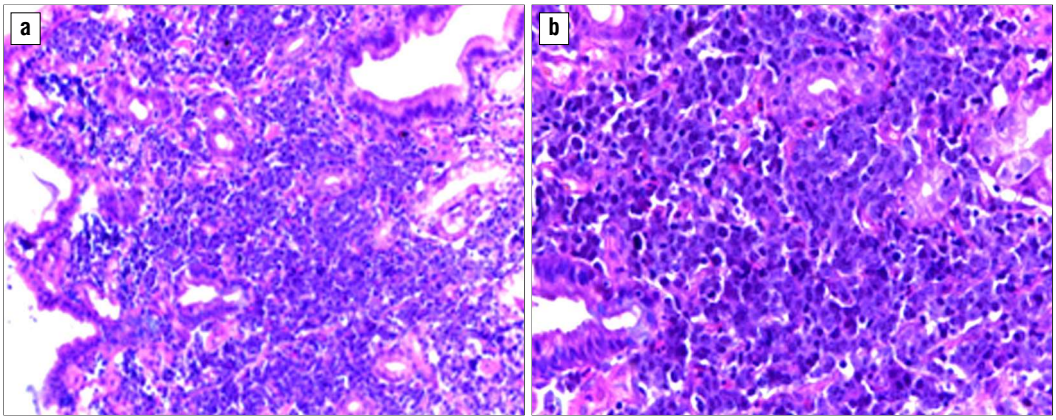

Figure 2 - Gastric biopsy: diffuse large-cell malignant lymphoid tumoral proliferation, with tumoral cells infiltrating the mucosa between the glands; hematoxilin and eosin
a) Magniffication x 20; b) Magniffication x 40

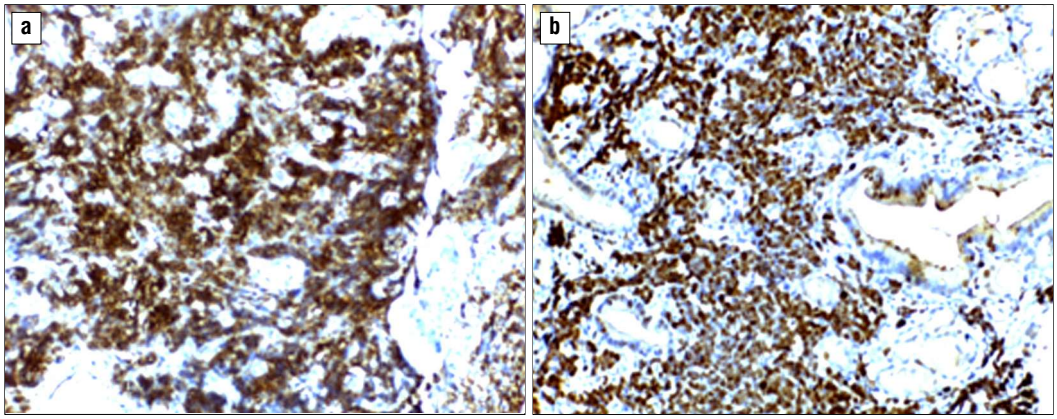

Figure 3 - Gastric biopsy: immunohistochemistry
a) tumoral proliferation with B cells positive for CD 20 and CD 10; Magniffication x 20
B) Ki 67 proliferation Magniffication x 20

of at least four or five neoplastic lymphoid cells. Follicles with reactive germinal centers may be present. DCBCL are composed of large cells (nuclei at least twice the size of small lymphocyte) with vesicular nuclei, prominent nucleoli, basophilic cytoplasm and a high proliferation index. Lesions are characterized by an intense cellular infiltration of the lamina propria. The predominant cells resemble either centroblasts, (large non-cleaved cells) or immunoblasts, or, most frequently, a mixture of these cells. In some cases a concomitant low-grade MALT-component is observed. Clinical symptoms are ordinary: dyspeptic symptoms, pain, haematemesis, malaena (20-30% of patients). An updated endoscopic classification has been proposed (2): ulcerative (single/multiple ulcerations), exophitic (irregular or polypoid mass), hypertrophic (large gastric fold/nodular mucosa), petechial hemorrhage and mixed. Our case was a rare presentation with mass and peptic ulcer (3). The staging system of gastric lymphoma is based on the Ann Arbor classification modified by Musshoff (4). Our patient was in stage IV (haematogenic spread stomach and one or more extralymphatic organs or tissues). Bone marrow involvement was absent in our case, but it has been reported in up to 15% of cases (5). Spiral CT-scan and EUS allows to accurately assess both the infiltration of lymphoma in the gastric wall and the regional lymph nodes involvement (6). In our case, the spiral CT-scan with reconstruction in several planes has visualized the dissemination pattern to all stomach layers and peritoneum, involvement of intra-abdominal and mediastinal lymph nodes. Using Paris staging system for our patient, the stage is T3 (lymphoma penetrates serosa), N3 (spread to extra-abdominal lymph nodes), M2 [non-continuous involvement of other tissues (peritoneum, pleura)], B0 (no evidence of bone marrow involvement). Risk stratification plays an important role in the management of patients with DCBCL. The International Prognostic index is calculated by the sum of the presence or absence of 5 variables: age ≥ 65 years, performance status ≥ 2, elevated LDH, Ann Arbor stage III or IV and ≥ 2 extranodal sites of disease (7). Based on the total score, our patient is in the high-risk group (4 factors). Patients in the high-risk group have had a complete response rate of 44% and a 5-years survival rate of 26%. Many studies suggest that gastric DCBCL is a highly chemosensitive disease (8). The addition of the anti-CD20 monoclonal antibody rituximab to CHOP chemotherapy, administrated every 14 to 21 days is the standard treatment for elderly patients with DCBCL (9). Aviles et al. have performed a four arm trial on surgery alone (148 patients), surgery and radiation (138 patients), surgery plus chemotherapy (153 patients) and chemotherapy alone (150 patients) with the OS-rate of 54%, 53%, 91% and 96% (10). Gastric lymphomas are monitored with histopathological examination. The GELA grading system takes into consideration three parameters evaluable exclusively on H&E stained sections: cellular infiltrate, lymphoepithelial lesions and stromal changes. The sections of our patient show partial remission after chemotherapy and allow the decision for a second oncologic treatment line.

CONCLUSIONS

We have presented an advanced stage gastric diffuse large B-cell lymphoma case that questioned the differential diagnosis, prognosis and therapeutic decision. In view of recent regression of gastric lymphoma in our patient we may hope that a second chemotherapy line may contribute to an excellent result. Gastrectomy will be a suitable approach if there will be a relapse, or new intensive combinations of chemotherapy and immunotherapy.

Conflict of interest

All author declare that they have no conflict of interest.

Ethics of approval

For performing this case ethical approval was obtained.

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