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Case Report

Adult T-Cell Leukemia/Lymphoma with Gastric Lesion

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A case of adult T-cell leukemia/lymphoma with a gastric tumor is presented. The patient was a 72-year-old woman who had been admitted to our hospital because of epigastric pain. Upper gastrointestinal endoscopy disclosed polypoid region in the antrum of the stomach. Specimens taken from this region revealed malignant lymphoma. Although the patient was serologically positive for human T-cell leukemia virus type I antibody. A chest X-ray, abdominal ultrasonography, and whole body computed tomography revealed no lymphadenopathy. We diagnosed her to have primary gastric malignant lymphoma and thus performed a total gastrectomy with regional lymph node excision and a splenectomy. Both histological and immunohistochemical studies of the resected specimen showed the lymphoma to be a diffuse pleomorphic type with a T cell phenotype. A radical surgical resection could be performed. At nine months postoperatively, she was again admitted to our hospital because of abdominal pain. Both ultrasonography and computed tomography revealed lymph node swelling around the surrounding the para aorta. She was treated with systematic chemotherapy. Unfortunately, she died at one year after the operation.

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Key Words: adult T-cell Leukemia/lymphoma, gastric lesion

Introduction

Primary lymphoma of the stomach is a rare disease among gastric malignancies^{1, 2)}.

However, gastrointestinal involvement in patients with leukemia and lymphoma of B-cell type frequently occurs, however T-cell type remains rare³⁾⁻⁵⁾.

Gastrointestinal involvement in adult T-cell leukemia/lymphoma (ATL) which is caused by human T-

cell lymphotropic virus type I (HTLV-I) is not rare⁶⁾⁻⁸⁾.

We herein present a case of adult T-cell leukemia/lymphoma (ATL) with malignant cell infiltration into stomach.

Case report

A 72-years-old woman visited our hospital with epigastric discomfort in September 13, 1995. On physical examination, no abdominal mass, hepatosplenomegaly or systemic lymphadenopathy was observed. The laboratory data are shown in Table 1. The white blood cell count was 6000/mm³ with normal differentiation. The human T-cell lymphotropic virus type I (HTLV-I) antibody was positive in the serum. The serum LDH and calcium levels were normal. Upper gastrointestinal endoscopy revealed a gastric polypoid lesion of the antrum (Fig1). Several specimen obtained by endoscopic biopsies showed a diffuse infiltration of malignant lymphoma. Preoperatively, ultrasonography (US) and computer tomography (CT) examinations showed no evidence of either swollen lymph nodes or organ metastasis. An operation was performed on November 17,

Table 1. Laboratory data on admission

| | | | |
|------|----------------------------------|--------|------------|
| WBC | 6000 / μ l | TP | 7.1 g/dl |
| Stab | 10 % | GOT | 20 IU/l |
| Seg | 52 % | GPT | 21 IU/l |
| Eo | 2 % | LDH | 298 IU/l |
| Mono | 4 % | Alp | 191 IU/l |
| Ly | 31 % | LAP | 45 IU/l |
| RBC | 401 x 10 ⁴ / μ l | BUN | 15.2 mg/dl |
| Hb | 10.9 g/dl | Cr | 0.7 mg/dl |
| Hct | 35 % | Na | 141 mEq/l |
| Plt | 26.5 x 10 ⁴ / μ l | K | 4.3 mEq/l |
| | | Cl | 106 mEq/l |
| | | Ca | 9.0 mg/dl |
| | | CEA | 2.5 ng/ml |
| | | HTLV-I | positive |

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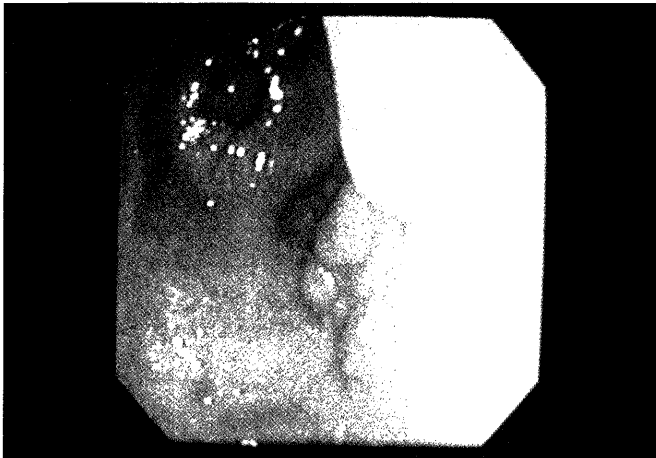


Figure 1. Endoscopic findings of the stomach reveals a polypoid lesion on an antrum.

1995.

At operation, the liver, omentum, small and large bowels were normal. A total gastrectomy with a regional lymph node excision and splenectomy were performed.

A histological examination of the resected specimen showed that the lymphoma cell diffusely infiltrated into the submucosal layer of the stomach on polypoid lesion (Fig2a).



Figure 2a. Histological examination of the resected specimen showed diffuse infiltration of abnormal lymphocytes into the submucosal layer.

Also the infiltration into specimens from other areas was noted.

The tumor was composed of medium to large sized

lymphoma cells (Fig2b).

Immunohistochemical examinations of the specimens were positive for UCHL-1 and negative for L-26. In addition, tumor showed no involvement of the regional lymph nodes.

During follow-up, a swollen lymph node surrounding the para-aorta was detected by abdominal US and CT at 9 months after the initial operation. The patient was treated with systematic combination chemotherapy (750 mg/mm² of cyclophosphamide, 50 mg/mm² of doxorubicin hydrochloride, 1.4 mg/mm² of vincristine sulfate, and 100 mg/mm² of prednisolone acetate). Though two cycles of the chemotherapy was done, the size of the lymph node showed no change. Laboratory examinations revealed an elevated LDH and calcium level. Thereafter, the patient developed multiple organ failure and died 1 year after the operation.

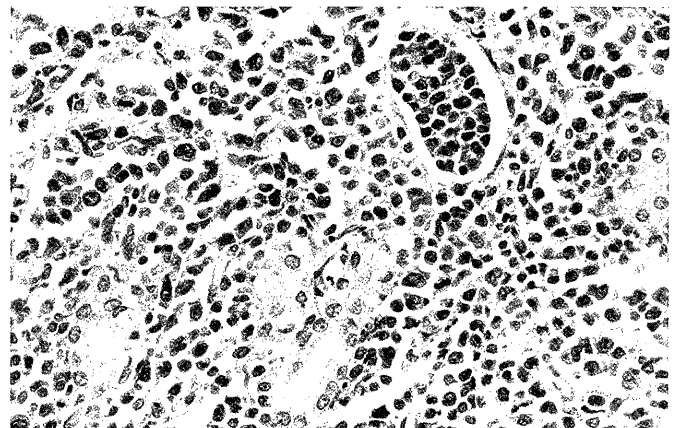


Figure 2b. The tumor was composed of pleomorphic, small to large sized lymphocytes with nuclear irregularity.

Discussion

Adult T-cell lymphoma is a new disease entity, reported by Uchiyama et al in 1977⁹⁾. The clinical symptoms of ATL are highly characteristic¹⁰⁾. For example, hepatosplenomegaly, systemic lymphadenopathy, rashes, and bone marrow involvement are usually observed and the gastrointestinal tract is frequently involved. Sakata et al⁸⁾ describes endoscopic features of gastric involvement of ATL were classified into three types the types of ATL: diffuse type (including multiple ulcers and diffuse erosions), tumor forming type (including submucosal tumor-like lesion, multiple polypoid lesions, and tumors with ulceration), and giant fold type. Also 30.3% of patients with ATL had gastric involvement.

In another study, Dawson et al.¹²⁾ indicated five major symptoms as the criteria for primary malignant

lymphoma of the intestinal tract: no palpable superficial lymphadenopathy, no enlarged mediastinal lymph nodes evident on chest radiographs, normal total and differential WBC counts, predominant bowel lesions at laparotomy, and no tumor in the liver or spleen.

Our patient had a polypoid lesion in the stomach. However, no other organ infiltration was found either at admission or during the operation. Consequently the present case met all these criteria. This case is considered to be a case of primary gastric lymphoma with ATL. In addition, the staging was stage I based on the Ann-Arbor system¹³⁾. Otherwise pathological findings show the diffuse infiltration of lymphoma cell into submucosal layer on the polypoid lesions and the other lesions. Namely this case was not primary gastric lymphoma and was gastric involvement of ATL.

Several reports have showed a combination of surgery, post operative irradiation or/and chemotherapy to be effective for treating the gastric ATL with regional node involvement^{10), 14), 15)}. Gastric involvement of ATL was one of the prognostic factors in acute type ATL, whereas it had no influence on the prognosis of lymphoma type ATL⁸⁾.

In case of gastric lymphoma positive for human T-cell leukemia virus type I, smear of peripheral blood and endoscopic examination was important for the diagnosis of leukemia type or lymphoma type. It is difficult to judge the indication of operation for gastric lymphoma with ATL. Combination chemotherapy would be the best treatment for Gastric lymphoma with ATL.

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