Primary endometrial B-cell lymphoma: case report

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Summary

The female genital tract is usually involved with lymphoma as part of disseminated disease. Primary lymphoid neoplasms of the female genital tract are rare; the frequency was reported to be 2% among extranodal lymphomas in women. Most of the time, primary female genital tract lymphoma occurs in the ovary and cervix, whereas endometrial lymphoma is extremely rare. The case of an 89-year-old patient that presented with postmenopausal bleeding is reported. An endometrial polypoid formation was found on hysteroscopic examination and the biopsy revealed a diffuse large B-cell lymphoma. Total abdominal hysterectomy and bilateral salpingo-oophorectomy were surgically performed. The histologic diagnosis was primary diffuse large B-cell lymphoma of the endometrium. Adjuvant therapy was not performed. Five months after initial diagnosis, the patient died. Only a few case reports of primary endometrial lymphoma have been published; therefore, information concerning etiologic factors, histologic type, treatment and prognosis is limited.

Key words: Endometrial lymphoma; Endometrial neoplasms; Lymphoma; Diffuse large B-cell lymphoma.

Introduction

Primary extranodal lymphoma is common and can occur in a wide variety of organs. However, primary lymphomas rarely involve the female genital tract, making lymphoma of the endometrium extremely rare [1, 2].

We report a case of primary lymphoma of the endometrium, diffuse large B-cell type.

Case Report

An 89-year-old female presented to our department with postmenopausal bleeding of a few days duration; she denied any other symptoms, including pelvic pain, weight loss or fever. Her past medical history included a stroke 17 years before; currently she had hypertension. Menarche occurred at 13 and menopause at 48 years of age, with no bleeding since then. She had had two spontaneous vaginal deliveries and no history of abortion. There was no case of malignancy in her family. Pelvic examination was normal, except for the presence of blood in the vagina. Transvaginal ultrasound (TVS) revealed an endometrial polyp with increased blood flow, suggestive of endometrial malignancy. The patient underwent hysteroscopic examination, which showed a polypoid formation with abnormal vascularisation. The biopsy of this mass was not sufficient for histologic diagnosis, which led to surgical hysteroscopy. Several biopsies were performed revealing the presence of a diffuse large B-cell lymphoma.

Once this diagnosis was made, the assistance of a hematologist was required for evaluation and treatment of the patient.

There was no clinical evidence of systemic disease and a preoperative staging evaluation was undertaken. Complete blood count, iron studies, coagulation profiles and serum chemistry, including serum lactate dehydrogenase, were normal. Serum protein electrophoresis and serum b2-microglobulin were also normal. HIV and hepatitis screens were negative. Bone marrow biopsy was also negative. Chest radiograph, gallium scan and computed tomography (CT) scan of the neck, chest and abdomen showed no evidence of disease; the CT scan of pelvis showed only an enlarged endometrium.

The patient underwent exploratory laparotomy with total abdominal hysterectomy and bilateral salpingo-oophorectomy. Intraoperative findings were normal; there were no enlarged or palpable suspicious pelvic or paraaortic lymph nodes. There were no complications postoperatively. Adjuvant therapy was not administered. An International Prognostic Index (IPI) score of 1 was attributed to the patient. At first follow-up, three months after surgery, the patient remained free of systemic disease. Five months after surgery, the patient died as a consequence of bowel obstruction.

Histopathology

Macroscopically, an endometrial mass was found protruding into the cavity measuring 3.5 x 4.5 cm, friable with a yellow surface, 1.5 cm distance from the serosa; no other anomalies was noted on gross examination of the surgical specimen (Figure 1). Histologic examination revealed a tumor composed of sheets of pleomorphic cells, with large nuclei, thin chromatin and numerous nucleoli, which were arranged in both centroblastic and immunoblastic types (Figure 2). Tumor cells were disposed in a diffuse pattern and no nodes were observed. The neoplasm was well delimited and the surrounding endometrium was noted to be atrophic. The myometrium presented with superficial infiltration and large compression by tumor (Figure 3). Immunohistochemical studies revealed the B-cell nature of the neoplasm, showing positive staining for CD79A and CD20 with no reactivity for CD10, bcl2 and bcl6. Immunorreactivity for Ki67, representing the proliferative activity of the tumor, was present in about 50% of the cells. There were no neoplastic cells in the uterine cervix or adnexa. Histopathological diagnosis was primary diffuse large B-cell lymphoma of the

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Fig. 1

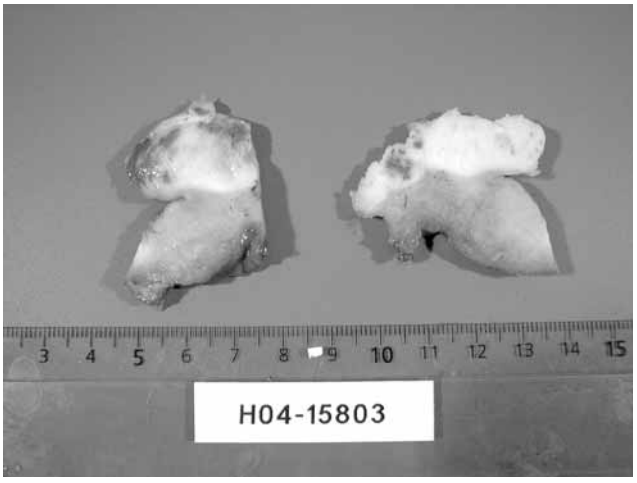

Fig. 2

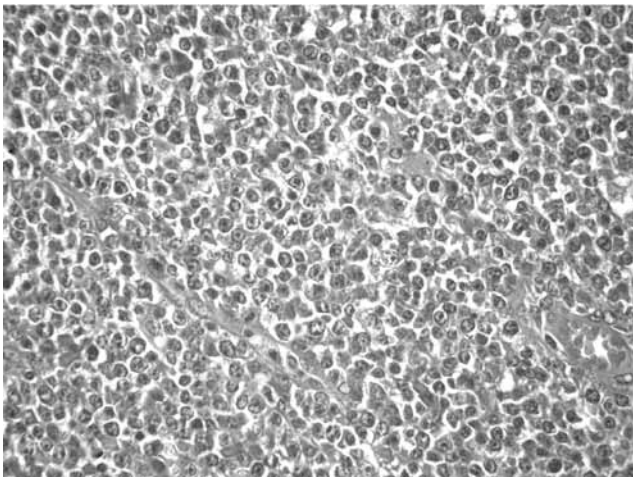

Fig. 3

Figure 1. — Macroscopic examination: endometrial neoplasm, yellowish in color, with expansive growing borders.

Figure 2. — Tumor composed of sheets of cells with large nuclei and numerous nucleoli, arranged in both centroblastic and immunoblastic types (hematoxylin and eosin, x 400).

Figure 3. — Transition between endometrial neoplasm, disposed in a diffuse pattern, and myometrium, which presented with superficial infiltration (hematoxylin and eosin, x 50).

endometrium. Pathological staging, according to the Ann Arbor staging system was Stage IE and according to FIGO it was Stage IB.

Discussion

Secondary involvement of the female genital tract by disseminated lymphoma is not unusual, but primary lymphoid neoplasms arising at this site are rare. The frequency of primary lymphomas of the female genital tract in Western countries was reported to be 2% among extranodal lymphomas in women [1, 2]. The ovary constitutes the most common primary location in the female genital tract [3]. Among uterine lymphomas, the cervix is the most involved site, whereas lymphoma of the endometrium is extremely rare [4, 5]. A review of the English literature shows a few case reports of primary endometrial B-cell lymphoma [1, 4-10] and only two cases of primary T-cell lymphoma of the endometrium [11, 12]. In a large recent series, reported by Lagoo and Robboy [10], 186 malignant lymphomas involving the female genital tract are described, six being primary diffuse large B-cell lymphomas of the uterine corpus. Harris and Scully [5] have published a study including 22 cases of primary lymphoma of the uterus, in which only two cases originated from the endometrium. In another study, reported by Vang *et al.* [6], in a series of 26 lymphomas involving the uterus, ten cases were presumed to be primary and only one did not involve the cervix. Additionally, Aozasa *et al.* [1] reported one case of primary lymphoma of the uterine corpus in a total of seven malignant lymphomas of the uterus.

The etiology of primary B-cell lymphoma of the endometrium is unknown. However, chronic inflammation, frequently with lymph follicle formation, has been associated with several types of extranodal B-cell lymphoma [13, 14]. The endometrial lymphoid tissue is a regionally specialized component of the immune system that plays a role in local immune surveillance, implantation, immunosuppression, cytokine-induced placental development in early pregnancy and regulation of endometrial epithelial proliferation [15, 16]. Possibly, unknown antigenic stimuli can induce a chronic B-cell response within the endometrial lymphoid tissue, leading to clonal B-cell proliferations, similar to what occurs with Helicobacter-induced chronic gastritis and gastric MALT lymphoma [4].

Because of important differences in therapy and management, other neoplasms, as well as benign proliferations that can simulate lymphoma, must be considered

in the differential diagnosis of primary diffuse large B-cell lymphoma. These include small cell carcinoma, endometrial stromal sarcoma, granulocytic sarcoma, neuroectodermal tumor, melanoma and chronic endometritis [5, 17].

The number of case reports and case series are so limited that a standard treatment is difficult to define for primary uterine lymphoma. Treatment modalities reported in the literature include surgery alone, radiation alone, chemotherapy alone or a combination of these therapies [1, 5, 6, 18]. The management of this neoplasia is individualized and depends not only on the patient and the tumor itself, but also on factors like the experience of the institution and the available facilities and resources. However, the initial treatment of all patients with diffuse large B cell lymphoma should include a combination chemotherapy regimen [19].

In our case, adjuvant therapy was not performed given the fact that the tumor was completely excised, that there was no evidence of metastatic disease, and especially due to the patient's age.

The prognosis of uterine lymphoma is considered to be relatively favourable when the disease is in early stage and treated properly [1, 5], being best assigned using the IPI, which is a powerful predictor of outcome in all subtypes of non-Hodgkin's lymphoma.

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