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Case Report

Coincidental detection of diffuse large B-cell lymphoma in the inner inguinal lymph node of a woman undergoing laparoscopic pelvic lymph node dissection for uterine endometrial cancer

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Simultaneous occurrence of non-Hodgkin's lymphoma (NHL) and solid carcinomas, such as colon, lung, and breast cancers, is relatively rare. We report a case of coincidental detection of diffuse large B-cell lymphoma (DLBCL) in the inner inguinal lymph node of a patient with uterine endometrial cancer FIGO stage IA. The patient was a 69-year-old woman and she visited a primary care doctor presenting with increased vaginal discharge. She was diagnosed as having uterine endometrial carcinoma. Laparoscopic hysterectomy, bilateral salpingo-oophorectomy, and pelvic lymph node dissection were performed. The final pathologic examination revealed uterine endometrial carcinoma (endometrioid carcinoma grade 1) and DLBCL was detected in the inner inguinal lymph node. No other malignant lymphoma legions were detected by positron emission tomography-computed tomography (PET-CT). She was diagnosed as having uterine endometrial carcinoma FIGO stage IA (pT1apN0pM0) and malignant lymphoma stage I according to the Ann Arbor clinical staging system. She was treated with six cycles of chemotherapy comprising rituximab, cyclophosphamide, adriamycin, vincristine, and prednisone (R-CHOP) for the malignant lymphoma. The patient remains in complete remission 8 months after completing chemotherapy.

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Key words: Non-Hodgkin's lymphoma, Uterine endometrial cancer, Pelvic lymph node dissection

Introduction

Diffuse large B-cell lymphoma (DLBCL), the most common form of non-Hodgkin's lymphoma (NHL), is classified as a middle-grade malignant lymphoma. Most patients are aware of painless lymphadenopathy, low-grade fever, or weight loss when DLBCL is diagnosised[1)]. Simultaneous occurrence of NHL and solid carcinomas, such as colon, lung, and breast cancers is relatively rare, but several cases have been reported[2)]. The frequency of the concurrence of NHL and solid carcinomas is approximately 1.4–8.3%[3)], including secondary carcinogenesis with the chemotherapy and/or the radiotherapy for the primary cancer. Simultaneous NHL and gynecological malignant tumor are particularly rare.

We report a case of coincidental detection of DLBCL in the inner inguinal lymph node of a patient with uterine endometrial cancer FIGO stage IA, and discuss the management and prognosis of asymptomatic DLBCL detected coincidentally.

Case presentation

A 69-year-old gravida 2, para 1 woman visited the primary doctor presenting with vaginal discharge. Uterine endome-

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trial carcinoma was suspected and she visited to our hospital for examination and treatment. She did not have any other symptoms, such as genital bleeding, fever, weight loss, or night sweats. She had received a gynecologic examination every year, including ultrasonography and Pap smear analysis, and no abnormalities were detected. However, an endometrial carcinoma (endometrioid carcinoma grade 1) was detected by the endometrial biopsy (Fig. 1a). The tumor size was very small and the invasion was less than a half of the myometrium by magnetic resonance imaging (MRI) (Fig. 1b). Computed tomography (CT) detected no swelling of the pelvic or para-aortic lymph nodes. The tumor markers (CEA, CA125, and CA19-9) were within normal ranges. She was diagnosed as having uterine endometrial carcinoma (endometrioid carcinoma grade 1). Laparoscopic hysterectomy, bilateral salpingo-oophorectomy, and pelvic lymph node dissection were performed. The endometrial carcinoma was a small polypoid tumor, and the invasion of myometrium was not detected by the macroscopic findings (Fig. 2). The pathologic examination revealed endometrial carcinoma stage IA (endometrioid carcinoma grade 1, pT1apN0pM0). Unexpectedly, a malignant lymphoma was detected in the left inner inguinal lymph node (Fig. 3a). Immunohistochemical studies were positive for CD20, Epstein Barr Virus early small RNAs (EBER), and leukocyte common antigen (LCA) markers, and she was diagnosed as having DLBCL (Fig. 3b, 3c, 3d). The DLBCL was detected in one lymph node that was less than 10 mm. No other malignant lymphoma lesions were detected by positron emission tomography–computed tomography (PET-CT). She was diagnosed as having a malignant lymphoma (DLBCL) with Ann Arbor clinical stage I. She received six cycles of combination chemotherapy (the so-called R-CHOP regimen: rituximab, cyclophosphamide, Adriamycin, vincristine, and prednisone) for the malignant lymphoma. Eight months after completing chemotherapy, there was no evidence of recurrence of malignant lymphoma.

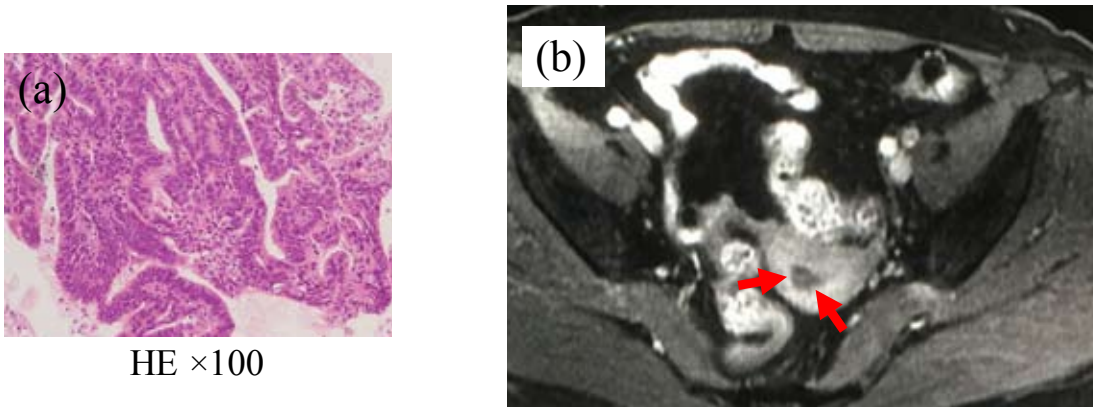

Figure 1. The findings of pathological examination and magnetic resonance imaging (MRI) before operation.
Endometrial carcinoma grade1 was detected by the endometrial biopsy (a).
The size of tumor was less than 2cm (arrow), and its invasion was less than a half of the myometrium (b).

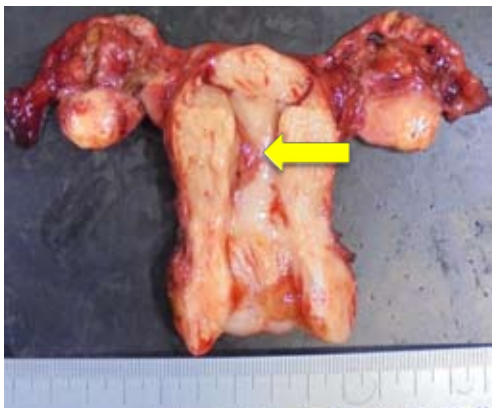

Figure 2. The Macroscopic findings of specimen.
The size of uterine endometrial carcinoma was less than 2cm（arrow）.

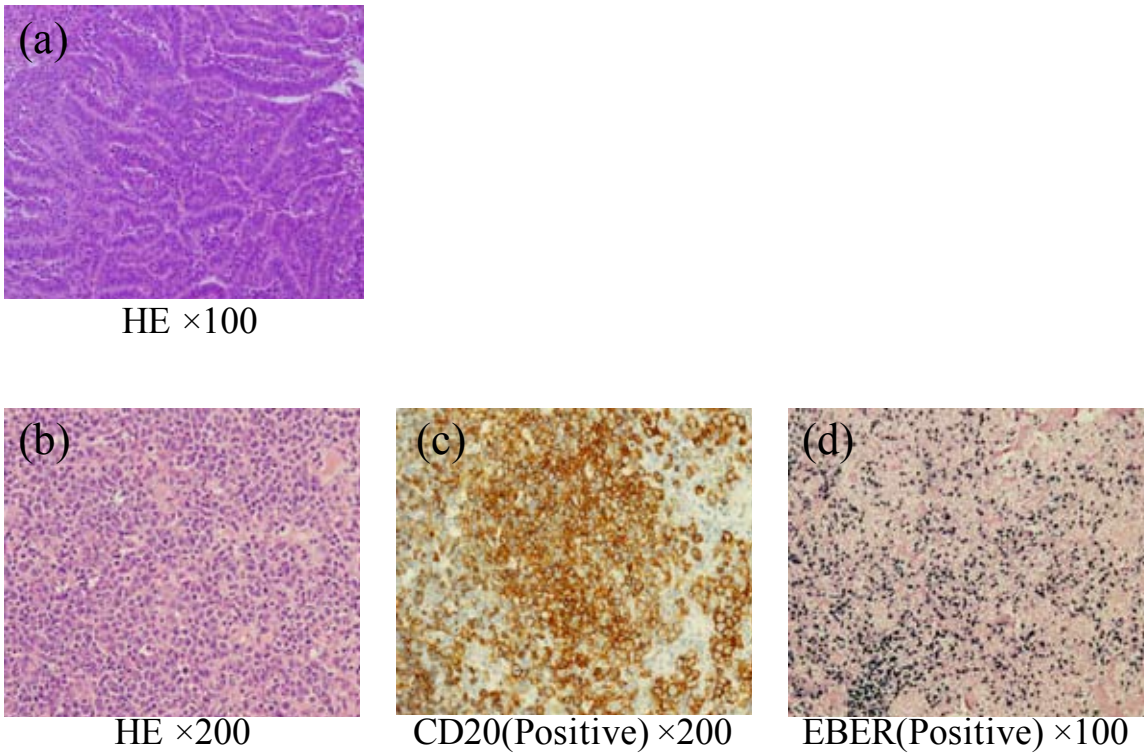

Figure 3. The pathological findings of uterus and left inner inguinal lymph node.
Uterine endometrial carcinoma grade1 was detected by pathological examination (a).
Malignant lymphoma was detected in the inner inguinal lymph node (b).
Immunohistochemical studies were positive for CD20, EBER (c, d).

Discussion

NHL is a malignant lymphoma, and in 2005, the National Cancer Center estimated that 16,991 new cases are diagnosed annually in Japan. DLBCL constitutes approximately one-third of all NHL cases and is the most common histologic subtype[1].

Epstein Barr Virus (EBV)-associated DLBCL that is detected in elderly people who do not have the immunodeficiency background has been reported since 2003[4]. We diagnosed our case as EBV-associated DLBCL, because in the immunohistochemical studies about CD20, LCA these are widely used as B cell marker were positive and EBER were also positive.

Some case reports discussed malignant lymphomas diagnosed by pelvic lymph node biopsy during laparoscopic surgery[5),6)] or paraaortic lymph node dissection during open surgery for uterine cervical cancer[7)], or endometrial cancer[8)], but all these cases also presented large swollen lymph nodes. Preoperative CT and MRI detected no swelling of the pelvic or para-aortic lymph nodes in our case. We did not perform further investigation such as PET-CT before operation because the possibility of lymph node metastasis in endometrial carcinoma stage IA (endometrioid carcinoma grade 1) is 5% or less. This is the first case report of coincidental detection of DLBCL in the inner inguinal lymph node of a patient with uterine endometrial cancer who had neither NHL symptoms nor lymphadenopathy.

At our institution, laparoscopic hysterectomy, bilateral salpingo-oophorectomy, and pelvic lymph node dissection are standard procedures for endometrial carcinoma stage IA (endometrioid carcinoma grade 1) with a tumor size less than 2 cm. The operation for early stage endometrial cancer is different for each institution. Particularly, the operation for the small endometrioid carcinoma (grade1) with a tumor size less than 2 cm, pelvic lymph node dissection tends to be omitted in many institutions. Our case might not be detected in the latter institution.

The optimal therapy for the patients with a solid carcinoma complicated with NHL has not been established because there have been so few cases. Standard treatment for DLBCL Ann Arbor stage I/II is six to eight cycles of R-CHOP. Radiotherapy is also used, depending on each case[1]. In our case, R-CHOP was administered only for the malignant

Table. 1 The international prognostic index (IPI) that is used widely to predict the prognosis of DLBCL.

Prognostic factors	Risk Groups	The number of prognostic factors	5-year progression free survival rate (%)	5-year survival rate (%)
・Age≧61 ・PS≧2 ・LDH＞reference value ・Stage Ⅲ,Ⅳ ・The number of extranodal lesions ≧2	Low	0, 1	70	75
	Mediate	2, 3	50	45～50
	High	4, 5	40	25～30

lymphoma because no other malignant lesions were detected and the undetected lesion was at an early clinical stage. The prognostic risk factors of DLBCL are age (≥61 years old), performance status (PS≥2), LDH, clinical stage (III or IV), and the number of extranodal lesions[1]. The international prognostic index that is used widely to predict the prognosis of DLBCL is divided into three risk groups by the number of prognostic factors[1] (Table. 1). Our case belonged to the low-risk group because her prognostic factor was only one, so we expect that her 5-year survival rate is better than 75% because she was provided appropriate treatment.

If a patient was diagnosed as NHL complicated with advanced uterine endometrial carcinoma, it might be difficult to determine the priority of the chemotherapy for each disease. In such a case, we might proceed with chemotherapy for an advanced uterine endometrial carcinoma because the prognosis of a patient diagnosed with NHL coincidentally and asymptomatically is expected to be good.

Conclusion

This is a first case report of coincidental detection of DLBCL in the inner inguinal lymph node of a patient with uterine endometrial cancer who had neither NHL symptoms nor lymphadenopathy. The prognosis of patients who are diagnosed with NHL coincidentally and asymptomatically is expected to be good because such patients belong to the low-risk group according to the NHL prognostic factors.

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Disclosure statement

The authors declare that they have no conflicts of interest.

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