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A case of primary MALT lymphoma of the endometrium presenting as an asymptomatic polyp

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Dear Editor,

Herein, we present the case of an 81-year-old Caucasian woman who received a diagnosis of breast cancer in March 2006. During staging procedures, a transvaginal echography revealed an endometrial polyp that was removed a few months later, after the completion of the breast cancer therapeutic program.

At microscopic examination, the polyp was characterized by numerous cystically dilated glands, mainly located at its periphery (Fig. 1). The stalk was diffusely infiltrated by a lymphomatous population consisting of small-sized elements with slightly indented nuclei, moderately dispersed chromatin, inconspicuous nucleoli, and a narrow rim of clear cytoplasm (Fig. 1). Such population tended to focally invade the glandular component giving rise to lymphoepithelial lesions and to colonize and substitute preexisting germinal centers. As a consequence of the latter event, a few centroblasts were scattered throughout the neoplastic growth. At immunohistochemistry, the lymphomatous population expressed the B-cell markers CD20 and

CD79a, as well as the marginal zone-associated molecule immune receptor translocation associated 1 (IRTA1; Fig. 1). In the areas corresponding to germinal center colonization, neoplastic cells—always CD10 negative—showed faint positivity for Bcl-6, in contrast to residual germinal center B-cells that strongly expressed both Bcl-6 and CD10 (Fig. 1). The Ki-67 marking accounted for less than 5% of the whole neoplastic population (Fig. 1). Based on these findings, a diagnosis of extranodal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue (MALT lymphoma) arising in an endometrial polyp was made.

Fever, night sweating, loss of weight, and local signs or symptoms were absent at diagnosis. The blood cell count revealed only a mild normocytic and normochromic anemia associated with a mild increase of erythrocyte sedimentation rate. Serum β_2 -microglobulin, lactate dehydrogenase, and reactive C protein levels were within normal range. The patient was negative for hepatitis B and C viruses. Total body computerized tomography was negative for lymphadenopathy and hepatosplenomegaly. Clinical and pathological evaluation of Waldeyer ring, gastroscopy, colonoscopy, and bone marrow biopsy showed no evidence of lymphomatous involvement. According to Ann Arbor criteria, the disease was staged IEA; the patient received no therapy and simply underwent periodic clinical, echographic, and radiological controls. At the last follow-up (24 months from diagnosis), a transvaginal ultrasonographic examination turned out normal as did hematological, physical, radiographic, and laboratory tests.

MALT lymphomas account for approximately 8% of all non-Hodgkin lymphomas (NHL), being the third most frequent histological subtype. The stomach is the most common site of involvement, even though MALT lymphomas have also been described in various nongastrointestinal sites. Although traditionally considered a localized disease,

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Fig. 1 **a** The endometrial polyp shows cystically dilated glands along with infiltration of its stromal stalk by a lymphomatous population (hematoxylin and eosin (H&E), $\times 100$); **b** the latter one consists of small-sized elements with irregularly shaped nuclei and a rim of clear cytoplasm; a few centroblasts are scattered throughout (arrowed; H&E, $\times 400$); **c** neoplastic cells carry CD79a (JCB117 monoclonal antibody, APAAP technique, Gill's hematoxylin counterstaining, $\times 400$); **d** residual germinal centre cells, strongly positive for Bcl-6

(arrowed), are surrounded by neoplastic elements that partly and weakly express the same molecule (PGB6p monoclonal antibody, APAAP technique, Gill's hematoxylin counterstaining, $\times 400$); **e** lymphomatous elements are clearly IRTA1 positive (IRTA1 monoclonal antibody; APAAP technique, Gill's hematoxylin counterstaining, $\times 400$); **f** the neoplastic population displays a low proliferation rate ($<5\%$; Mib-1 monoclonal antibody; APAAP technique, Gill's hematoxylin counterstaining, $\times 400$)

MALT lymphoma may disseminate within the mucosa-associated lymphoid tissue (diffuse involvement of a single MALT site or multiple mucosal localizations) or spread outside MALT (to lymph nodes and/or bone marrow) as the result of the loss of mucosal homing properties. At diagnosis, MALT lymphoma may be disseminated in about 1/4 or 1/3 of patients. According to these findings, all patient with MALT lymphoma should undergo extensive staging procedures.

Genital tract involvement by extranodal NHL is uncommon. In fact, only 1.5% of extranodal NHL originate in the female genital tract, the ovary being the most commonly affected site. Primary lymphomas of the uterus (corpus and cervix) are exceedingly rare [1].

Histologically, the incidence of NHL involving the uterus seems to parallel the incidence of NHL in general.

In fact, most reported cases correspond to diffuse large B-cell lymphoma followed by follicular lymphoma.

Only a few cases of MALT lymphoma have so far been recorded in the uterus [1–6] (Table 1), and none of these occurred in the form of an endometrial polyp, as seen in our patient. Of these cases, three presented with extensive lymphomatous infiltration of the uterine corpus that produced either uniform enlargement of the organ [1, 3] or a mass [4]. The remaining three occurred in the cervix with the clinical features of cervical dysplasia [2], endocervical polyp without ulceration of the mucosal surface [5], and cervical leiomyoma [6], respectively. Notably, only one of these was staged IA likewise the case herein described [2].

To the best of our knowledge, this is the first reported example of MALT lymphoma occurring within the context of an endometrial polyp. The fact that the latter one was

Table 1 Cases of primary MALT lymphoma of the uterus reported in the English medical literature

Case no.	Age (years)	Clinical presentation	Clinical presentation	Site	Lymphoma presentation	Histologic grade	Ann Arbor stage	IPI score	Treatment	Follow-up
1 [1]	43	Intermenstrual vaginal bleeding	Uniform uterine enlargement	Corpus	Extensive lymphomatous infiltration	Low	IIEA	0	TAH – BSO + LNS	NED, 28 months
2 [3]	52	Abnormal uterine bleeding Abdominal pain B symptoms	Uniform uterine enlargement	Corpus	Extensive lymphomatous infiltration	Low	IVEB	2	TAH – BSO	NED, 20 months
3 [4]	72	Pelvic pressure Dysurea	Large uterine mass	Corpus	Extensive lymphomatous infiltration	Low	IIEA	1	TAH + P-RT (41 Gy) + PLN-RT (36 Gy) CC alone	AWD, 11 months
4 [2]	53	Incidental finding at PAP test	“Cervical dysplasia”	Cervix	Localized lymphomatous involvement	Low	IEA	0	CC alone	NK
5 [5]	46	Intermenstrual vaginal bleeding	Endocervical polyp	Cervix	Polyp-localized lymphomatous infiltration	High	IVEA	2	Polypectomy + 5 courses of CHOP-like protocol; later TAH because of local relapse	NED, 28 months
6 [6]	40	Abnormal uterine bleeding	“Cervical leiomyoma”	Cervix	Cervical lymphomatous infiltration	Low	IIEA	0	VH + P-RT	NED, 3 months

TAH total abdominal hysterectomy, BSO bilateral salpingo-oophorectomy, LNS lymph node sampling, P-RT pelvic radiotherapy, PLN-RT paraaortic lymph node radiotherapy, CC cervical conization, VH vaginal hysterectomy, NED no evidence of disease, AWD alive with disease, NK not know

incidentally detected in an 81-year-old woman might have easily led to underestimation of the lesion. Under these circumstances, histological examination and careful morphophenotypic evaluation of obvious lymphoid components are warranted to make the correct diagnosis and to pursue the appropriate staging and therapeutic decision in case of malignant lymphoma.

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