Gynecologic Oncology Reports 13 (2015) 30–32

Contents lists available at ScienceDirect

Gynecologic Oncology Reports

journal homepage: www.elsevier.com/locate/gore

Case Report

Primary endometrial uterine Burkitt lymphoma in a 65-year-old woman

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ARTICLE INFO

Article history:
Received 17 March 2015
Accepted 22 May 2015
Available online 3 June 2015

Keywords:
Uterine
Endometrial
Primary
Burkitt
Lymphoma

1. Introduction

Uterine corpus cancer is the most common gynaecological malignancy in the developed world (GLOBOCAN, 2008). Endometrioid endometrial adenocarcinoma is the most common histological type contributing 80% of primary uterine cancers (Siegel et al., 2011).

Lymphomas are rarely found as a primary cancer in the female reproductive tract (Keller et al., 2006). Although 1 in 4 lymphomas will have extranodal origin, the reproductive tract contributes less than 1% of extranodal disease (Hariprasad et al., 2006; Komaki et al., 1984).

Burkitt lymphoma (BL) is a rare aggressive non-Hodgkin's lymphoma (NHL) in adulthood. The precise international incidence remains unknown as many cases occur in developing nations where epidemiological data is not routinely collected (Magrath, 2012). There are three sub classifications of Burkitt lymphoma: endemic, sporadic and immunodeficiency associated. We present a case of advanced endometrial BL which meets the criteria for primary uterine lymphoma (PUL).

2. Case presentation

A 65 year old retired nurse presented with a two-month history of postmenopausal bleeding, back pain, night sweats, lethargy and a 15 kg weight loss. She had presented two years prior with vaginal bleeding and endometrial biopsy had shown benign endometrial polyps. Her medical history included obesity, pulmonary sarcoidosis, hypertension and diastolic heart failure. She was a non-smoker.

Physical examination revealed an obese woman with suprapubic tenderness and fullness. She had no palpable lymph nodes or hepatosplenomegaly. Pelvic examination showed a normal cervix and enlarged uterus. Endometrial sampling was done in the outpatient clinic.

Initial computed tomography (CT) of the chest, abdomen and pelvis in August 2012 (Fig. 1) revealed an enlarged uterus (15 × 8.5 × 12 cm), left ovary (3.7 × 4 × 5.6 cm) and left fallopian tube. Mesenteric, upper abdominal and hilar lymph nodes were enlarged. Small bowel adjacent to the uterus was thickened. Bowel and pulmonary involvement could not be excluded as interpretation was complicated by the history of pulmonary sarcoidosis.

The uterus was bulky with an endometrial thickness of 14 mm on ultrasound scan.

Endometrial biopsy revealed stromal infiltration by sheets of intermediate sized malignant lymphocytes with prominent apoptosis and endometrial gland loss. Immunohistochemistry showed the tumour cells to be positive for CD20, CD10 and Bcl-6 and negative for CD2 and Bcl-2. Ki-67 was greater than 95%. Fluorescence in situ hybridisation (FISH) confirmed IGH/MYC [t (8:14)] rearrangement.

The final diagnosis was therefore stage 4BEX Burkitt's lymphoma. She was commenced on CODOX-M/IVAC (Magrath regimen) with the omission of intrathecal therapy given the technical difficulty encountered with obesity.

The treatment course was complicated by tumour lysis syndrome requiring renal replacement therapy, haemorrhagic cystitis and sepsis. The patient completed 4 cycles of CODOX-M/IVAC (Magrath regimen) and went into remission. At two year follow-up she was well without any B symptoms and had gained 15 kg. Hilar lymph node enlargement was unchanged on CT imaging consistent with her original sarcoidosis, the uterus and ovaries were however of normal size (Fig. 2).

3. Discussion

Primary extra nodal NHL criteria is met when the disease is only extranodal or when the bulk of the disease is confined to the extranodal site (Magrath, 2012). NHL is a heterogeneous group of lymphoproliferative cancers and PUL is rare and more so the BL subtype. Diffuse large B cell type is the most common histological type (Hariprasad et al., 2006).

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http://dx.doi.org/10.1016/j.gore.2015.05.003

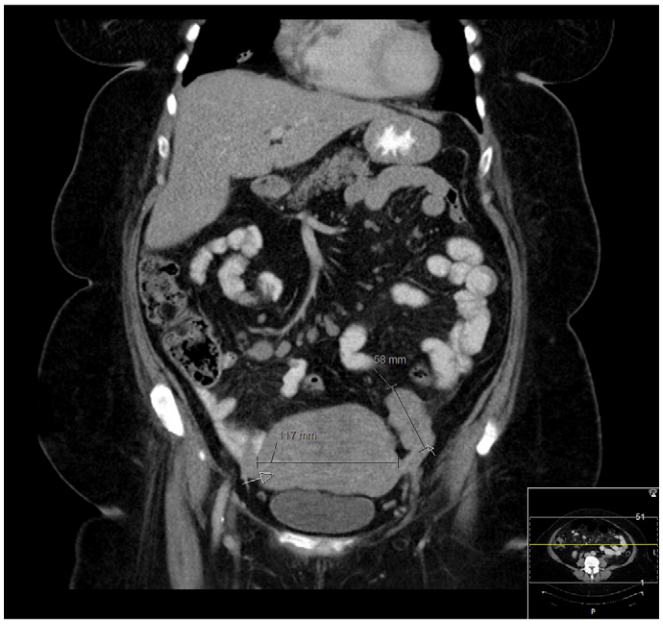

Fig. 1. Computed tomography at the initial staging (A) showed the enlarged uterus (15 × 8.5 × 12 cm), left ovary (3.7 × 4 × 5.6 cm) and left fallopian tube.

Because of stage 1E presentation (Ann Arbor classification) Keller et al. argue that their published case is the true PUL as it was early stage (Hariprasad et al., 2006). However BL involving the uterus whether primary or secondary is rare and like ours, other well documented cases are stage IV, possibly a reflection of the aggressive nature of the disease.

Our case at age 65 years is older than any previously reported sporadic PUL BL in the literature, reported age range is 15–56 years, and represents the first such case diagnosed by Pipelle endometrial sampling (Keller et al., 2006). In a series of all BL in adults treated with chemotherapy, age above 40 years has been associated with inferior outcomes due to inability to tolerate aggressive chemotherapy regimens (Friedberg et al., n/d).

Postmenopausal vaginal bleeding presentation for our patient was suspicious for uterine cancer but the diagnosis of lymphoma was unsuspected as in any other NHL PUL subtypes as the patient had clear risk factors for endometrial endometrioid adenocarcinoma (Upanal & Enjeti, 2012). Night sweats can be interpreted as hot flashes. B symptoms of lymphoma are rare. The ovary and cervix are the recognised common extranodal sites of lymphoma in the reproductive tract (Hariprasad et al., 2006). The absence of disease in the cervix was therefore unusual. Age range for sporadic PUL BL varies from 15 to 56 years in a literature review of 5 cases.

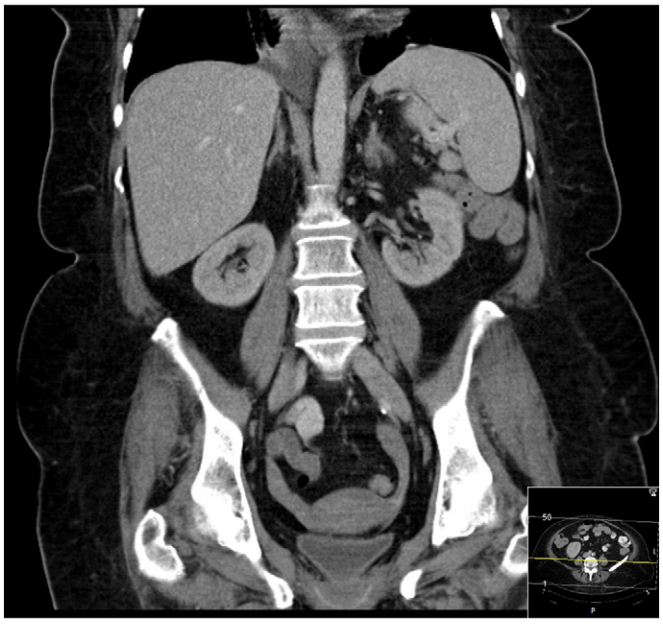

Fig. 2. After 4 cycles of chemotherapy, these changes were resolved (B). Bilateral hilar lymphadenopathy with calcification remains unchanged consistent with sarcoidosis.

Outpatient endometrial biopsy highlights the utility of expedited diagnosis as in other endometrial cancers. In our case this was achieved by using the Pipelle® Endometrial Suction Curette at the initial clinic examination. Published cases of PUL BL report that the diagnosis was made on hysterectomy specimen (Hariprasad et al., 2006). Significant difficulties in diagnosing PUL on cervical or vaginal biopsies due to crush defects have been reported, which was not an issue for this endometrial sampling method, most likely due to its suction mechanism (Keller et al., 2006). The biopsy yielded significant tumour cells seen as sheets of malignant lymphocytes with endometrial glandular loss making the diagnosis of lymphoma easy and was the only sampling modality used. This along with tumour bulk and enlarged uterus lead us to believe that outpatient endometrial suction sampling may be more effective.

There is no standardised treatment protocol for PUL BL. NonBL NHL cases which are the majority have been treated in various ways. In Hariprasad et al.'s review of 101 cases, treatment modalities were surgery alone ($n = 12$); surgery plus radiotherapy ($n = 21$); chemotherapy plus radiotherapy ($n = 19$); radiotherapy only ($n = 11$); chemotherapy only ($n = 8$); surgery plus chemotherapy ($n = 7$); surgery plus chemotherapy plus radiotherapy ($n = 2$).

Treatment modality was not known in 21 cases. Follow up period was up to 175 months. They appeared to suggest surgery as a definitive treatment except for fertility preservation in younger women and consideration of chemotherapy given advantage of preventing micrometastasis. PULs do however have a good survival rate compared to nodal lymphomas and ovarian lymphomas. Disease free survival ranges from 5 months to 8 years with an average 83% five year survival rate (Vang et al., 2000). BL PUL only data is not reassuring. Three cases of stage IV disease reviewed by Keller had died within 12 months (Keller et al., 2006). Our patient at 24 months remained disease free after combination chemotherapy alone and avoided major surgery with its attendant risks. We suggest therefore that advanced age should not preclude combination chemotherapy alone for PUL BL.

In conclusion, given rarity of PUL BL, and unlikelihood of carrying out a randomised controlled trial for treatment protocols, we propose maintaining a region wide or international database to assist with management and urge practitioners to keep lymphomas in their differential diagnosis for postmenopausal bleeding in the background of night sweats.

Conflict of interest statement
The authors declare that there are no conflicts of interest.

Consent for publication

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of the journal on request.

References

GLOBOCAN, 2008. http://globocan.iarc.fr database (version 1.2).
Siegel, R., Ward, E., Brawley, O., Jemal, A., 2011. Cancer statistics, 2011: cancer statistics, 2011: the impact of eliminating socioeconomic and racial disparities on premature cancer deaths. CA Cancer J. Clin. 61, 212.
Keller, C., Savage, D.G., Rusta-Villa, M., Bhagat, G., Alobeid, B., 2006. Primary Burkitt lymphoma of the uterine corpus. Leuk. Lymphoma 47 (1), 141–145.

Hariprasad, R., Kumar, L., Bhatla, N., Kukreja, M., 2006. Papiah. Primary uterine lymphoma: report of 2 cases and review of literature. Am. J. Obstet. Gynaecol. 195, 308–313.
Komaki, R., Cox, J., Hansen, R., Gunn, W., Greenberg, M., 1984. Malignant lymphoma of the uterus and cervix. Cancer 54, 1699–1704.
Magrath, I., 2012. Epidemiology: clues to the pathogenesis of Burkitt lymphoma. Br. J. Haematol. 156, 744.
Friedberg JW, Ciminello L, Kelly J, Clawson S, Hoelzer D, Holte H, et al n/d Outcome of patients > age 40 with Burkitt Lymphoma (BL) treated with aggressive chemotherapuetic regimens: results from the international Burkitt Lymphoma collaborative group. Blood, 106, (11), p.273A.
Upanal, N., Enjeti, A., 2012. Primary lymphoma of the uterus and cervix: two case reports and a review of the literature. Aust. N. Z. J. Obstet. Gynaecol. 51, 559–562.
Vang, R., Medeiros, L.J., Ha, C.S., Deavers, M., 2000. Non-Hodgkin's lymphomas involving the uterus: a clinicopathological analysis of 26 cases. Mo Pathol. 13, 19–28.