Iranian Journal of Pathology (2012) 7 (4), 246 - 250

Case Report

Inguinal Lymph Node Metastasis as the First Presentation of Endometrial Carcinoma

Shokouh Taghipour zahir[1], Kiyanoosh Sedaghat[1], Saeed Kargar[2]

1. Dept. of Pathology, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
2. Dept. of Surgery, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

ABSTRACT

Endometrial adenocarcinoma is uncommon in fewer than 40-year-old people. The first common sign and symptoms are abnormal vaginal bleeding and discharge. Metastasis is occurred in the late stage. Here we present a 31-year-old nullipar woman who was admitted to surgical ward with enlarged right inguinal lymphnode from one month ago. She had no history of previous malignancy, infectious condition, vaginal bleeding, and discharge. Abdominal sonography revealed no abnormality. She underwent surgical biopsy and metastatic adenocarcinoma most suspected from genital tract was reported. Based on pathological recommendation diagnostic curettage was performed and endometrial adenocarcinoma of conventional type as a first origin was confirmed. To our knowledge metastasis to inguinal lymph node as a first manifestation of endometrial carcinoma is rare.

Keywords: **Endometrial Carcinoma, Groin, Lymph Node, Metastasis**

Introduction

Endometrial carcinoma mostly occurs in postmenopausal women with abnormal uterine bleeding and vaginal discharge. It is unusual in young adult especially in lower than 40 years old. The risk factors are obesity, diabetes mellitus, hypertension, breast cancer patients treated with tamoxifen, atypical endometrial hyperplasia, functioning granulosa cell tumors and unopposed estrogen (1-3). Distant metastasis appear in the late stage and in a high grade tumors such as papillary endometrial carcinoma and clear cell carcinoma (4,5).On the other hand less than 5 percent of endometrial carcinoma

Received: 7 Septembr 2011
Accepted: 7 February 2012
Address communications to: Shokouh Taghipour zahir, Dept. of Pathology, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
Email: Shokouh_ zahir@yahoo.com

presented with lymphnode metastasis and among them the inguinal lymphnode metastasis is very rare especially among young women under 40 years old, so here we report a case in which the inguinal lymph node metastasis was the first presentation of endometrial carcinoma and because the patient had no gynocological abnormality so the diagnosis was delayed for six months.

Case Report

A 31 year--old woman was admitted to our surgical ward with enlarged right inguinal lymph node without previous history of infection, malignancy, vaginal bleeding, discharge, diabetics mellitus, hypertension and familial carcinoma. She was nullipar with two abortions, had a history of investigatory laparascopy for infertility which did not reveal any abnormality in the genital tract and she did not receive any medication for her infertility. Consequently, surgical excision of lymph node was considered for her.

Grossly the excised lymph node was cream-colored and oval shape with fleshy consistency, measuring 5x4.5x2 cm. On cut section had a cream-pinkish surface with areas of necrosis. Microscopically the normal architecture of lymph node was effaced by neoplastic cells which have a large hyperchromatic nuclei, prominent nucleoli, clear to eosinophilic cytoplasm and numerous mitotic figures that some of them were atypical. Neoplastic cells arranged in solid nests and glandular pattern, with large areas of necrosis (Fig. 1A, 1B).

Metastatic adenocarcinoma with unknown origin was reported. Genital and gastrointestinal tracts (GI) investigations as the primary source of tumor were suggested. Abdominal and pelvic sonography revealed no abnormality in the liver, gallbladder, spleen, and pancreas. Left kidney measured 109 mm in length with parenchymal thickness measured about 16mm and right kidney measured 108 mm in length with parenchymal thickness measuring about 15.6 mm. No stone, hydronephrosis, or space-occupying lesion was detected. Bladder had no abnormality. The length of uterus was normal and measuring 85-mm. Myometrial echogenicity was normal, had no space-occupying lesion and endometrial thickness measuring 9 mm. Both ovaries had normal size with normal echo pattern. Both fallopian tubes were normal and no free fluid was detected in pelvic space. In abdominal computed tomography study with oral and intra venous injection (IV) contrast, no abnormality was detected in the liver, spleen, pancreas, intestinal loops, or bladder.

No lymphadenopathy was detected around the abdominal aorta. Therefore, sonography and computed tomography studies did not help in diagnosis of metastasis origin. Then immunohistochemical study was performed, and neoplastic cells were positive for pancytokeratin, cytokeratin7, and vimentin and negative for cytokeratin20, estrogen, and progesterone receptors (Fig. 2A, 2B, 2C, 2D).

Patient did not come for further investigations and after six months again showed another enlarged inguinal lymph node without any clinical signs and symptoms in any other organs. Further diagnostic curettage and histopathologic examination revealed moderately differentiated endometrioid adenocarcinoma (grade2) in which the neoplastic epithelial cells had a large hyperchromatic nuclei, arranged in glandular pattern and had a papillary (villoglandular) feature on the surface. After that, she underwent total abdominal hysterectomy with bilateral salpingooophorectomy.

Ovaries and cervix were free of tumor and tumor only invaded 1/3 of myometrium (Stage IVb Based on FIGO staging system). Patient received chemotherapy and radiotherapy. At present time, she feels good after one-year follow-up.

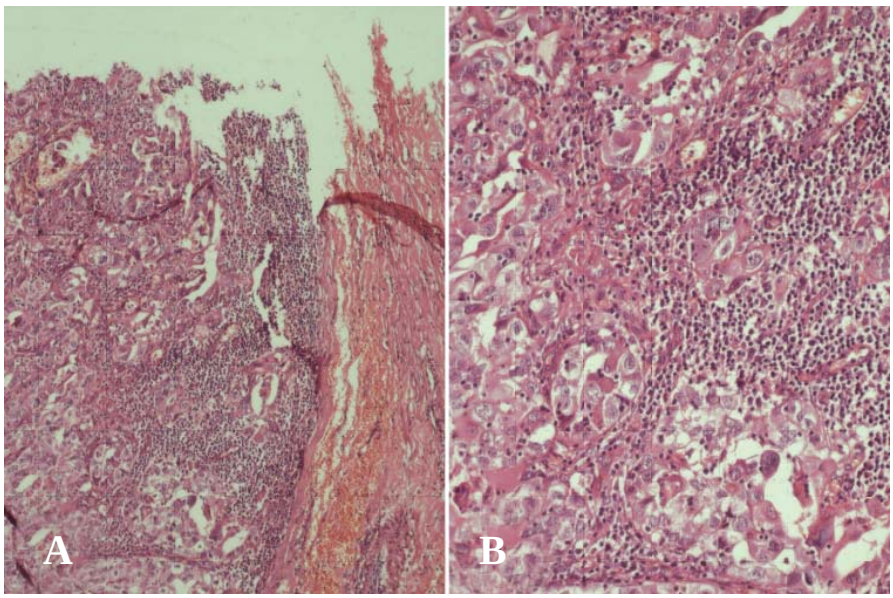

Fig. 1- A: Lymph node metastasis by neoplastic cells which arranged in glandular pattern (objective ×10). B: Neoplastic cells have a large hyperchromatic nucleus with eosinophilic or clear cytoplasm and prominent nucleoli (objective ×20)

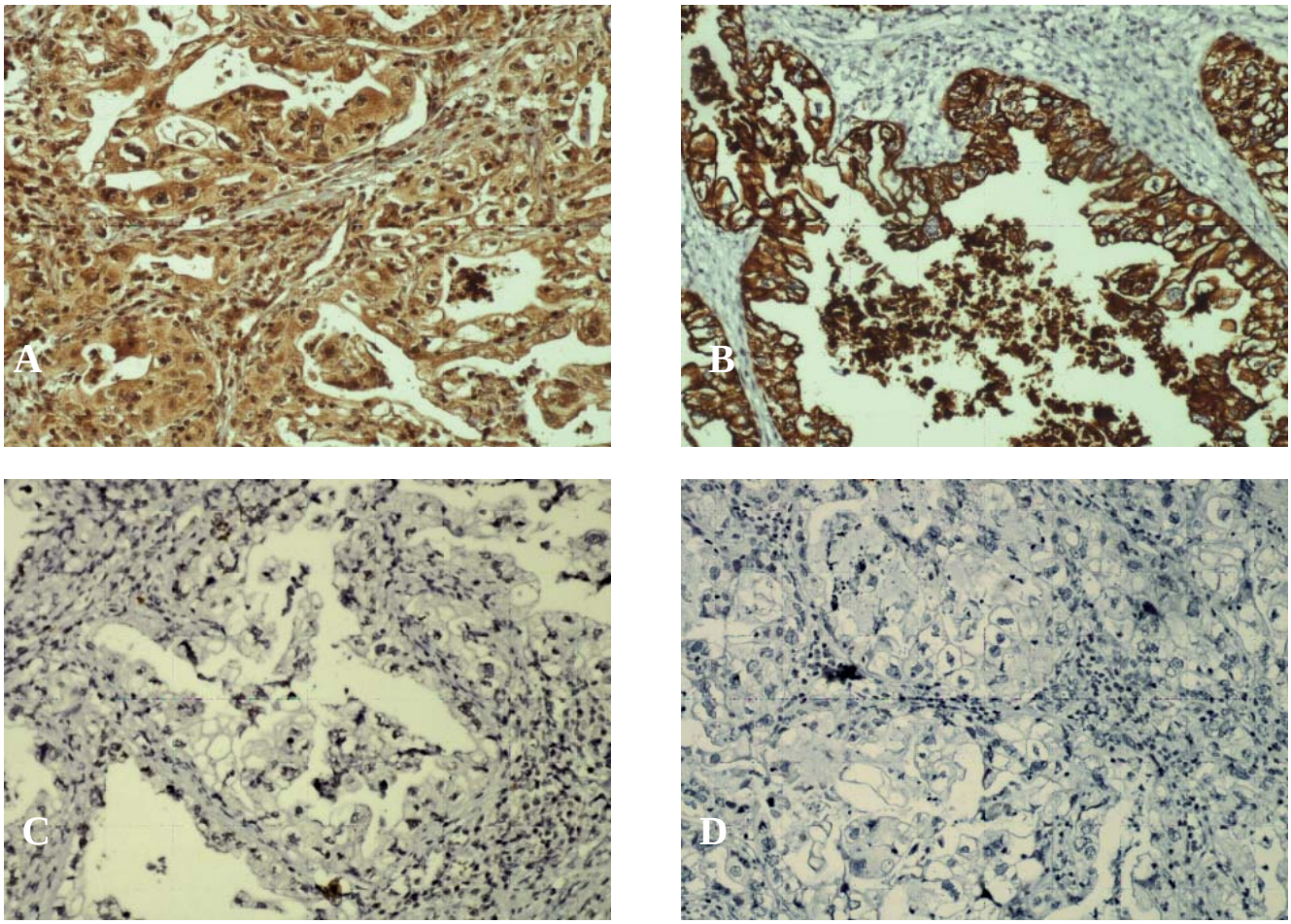

Fig. 2- A:Neoplastic cells have a positive reactivity for vimentin in immunohistochemical studing(objective ×20). B: Positive reactivity of neoplastic cells for cytokeratin 7 in immunohistochemical staining method (objective ×20). C: Negative reactivity of neoplastic cells for ER (objective × 20). D: Negative reactivity for cytokeratin 20(objective × 20)

Discussion

Endometrial carcinoma is the most common gynecological carcinoma in western countries especially in USA. The endometrioid type is the most common type in the second and third decades of life. Multiple predisposing factors are discovered such as excessive estrogen exposure, endometrial hyperplasia, obesity, hypertension, polycystic ovary syndrome, nulliparity, infertility, early menarche, late menopause, endometrial polyps, diabetes, tamoxifen, pelvic radiation therapy, breast cancer, ovarian cancer, anovulatory cycles and age over 35(1-3).

Our patient was 31 year-old woman that in her age group endometrial adenocarcinoma is not common but she had a history of infertility. Vaginal bleeding or spotting are the common presenting signs in the postmenopausal patients and bleeding between normal periods is the common sign in premenopausal women (older than 40). Endometrial carcinomas are often low-grade endometrioid type and minimally invasive into the underlying uterine wall, and have a good prognosis. In the higher stages they metastasis into the pelvic lymph nodes and inguinal lymph nodes (4,5). Therefore, spreading to pelvic lymph nodes is an important criterion of tumor dissemination, and usually results in upstaging of the disease to overall stage IV cancer and it potentially affects the patient's treatment options. A few cases have been reported with lymph node metastasis as the first presentation of endometrial carcinoma. Scholz HS and *et al.* presented a 54-year-old woman with metastatic mucinous adenocarcinoma in the inguinal lymph node, which their further investigations revealed well-differentiated endometrioid adenocarcinoma as the first origin and in the same time, the pelvic lymph nodes and paraaortic lymph nodes were involved (4). Paulussen *et al.* presented two cases of inguinal lymph node metastases of papillary adeno-carcinoma in two post-menopausal women who had enlarged inguinal lymph nodes by metastatic carcinoma but their investigations for primary origin was negative for several months because their patients had no gynecological signs (5).

The differences between our patient with the two other case reports were first their patients were post-menopausal women which in this age group endometrial adenocarcinoma is not rare and also the patient had other lymph nodes involvement in the same time but our patient was under 40 years old in which endometrial adenocarcinoma is uncommon and also had no abnormalities in abdominal and pelvic sonography, so the diagnosis of endometrial origin delayed despite the pathology recommendation, and second papillary adenocarcinoma has a more aggressive behavior than conventional type which seen in Paulussen cases.

Some of the endometrial adenocarcinoma are estrogen receptor (ER) and progesterone receptor (PR) positive especially endometrioid type, followed by papillary serous carcinoma and clear cell carcinoma (6).They are also positive for keratin, especially keratin 7,8,18, 19 and vimentin (7). In our case, neoplastic cells were not ER and PR positive but positive for cytokeratin 7, pancytokeratin and vimentin. Although GI tract malignancies are placed at the end of the differential diagnosis list of inguinal lymph node metastatic adenocarcinomas, but we used Cytokeratin 20 in our immunohistochemical study. Cytokeratin 20 is positive in most colonic adenocarcinomas and negative in ovary and endometrial carcinoma (8). Since most neoplastic cells were positive for pancytokeratins, cytokeratin 7 and vimentin and negative for cytokeratin 20, the genital tract especially uterine investigation in spite of negative ER and PR condition was recommended. Pelvic and paraaortic lymph nodes and the ovaries are the most sites for metastasis (9). A total abdominal hysterectomy with bilateral salpingo-oophorectomy, cytologic sampling of the peritoneal fluid with lymphadenectomy, or removal of pelvic and para-aortic lymph nodes,

are sometimes performed for tumors that have high risk features, such as pathologic grade 3 serous or clear-cell tumors, invasion of more than ½ of the myometrium, or extension to the cervix or adnexa (1, 2). Sometimes, removal of the omentum is also performed. In our rare case hysterectomy revealed endometrioid carcinoma that involve 1/3 of the myometrium without spreading to cervix or adnexa, and in the same time had a inguinal metastasis that is an unusual behavior in this type of carcinoma. So based on patient's age, type of carcinoma and uncommon first presenting signs, our case was unique.

Endometrial adenocarcinoma mostly seen in pre and postmenopausal women and in low stage pattern. Distant metastasis especially inguinal lymph node involvement is uncommon first presentation of endometrial carcinoma and because one of the predisposing factors for endometrial carcinoma is having exposure to estrogens or infertility, so in young women with these histories and metastatic carcinoma in the inguinal lymph nodes with unknown origin, the endometrial carcinoma should be considered as the first line differential diagnosis if she has no gynecological signs and symptoms and diagnostic curettage must be performed without any delay.

Acknowledgement

Authors would like to thanks Dr Goodarzian for editing the article. The authors declare that there is no conflict of interests.

References

1. Di Cristofano A, Ellenson LH. Endometrial carcinoma. Annu Rev Pathol 2007;2:57-85.

2. Jemal A, Siegel R, Ward E, Hao Y, Xu J, Murray T, *et al.* Cancer statistics. 2008. CA Cancer J Clin 2008;58(2):71-96.

3. Abeloff MD, Armitage JO, Niederhuber JE, Kastan MB, McKenna WG. Abeloff's Clinical Oncology. 4th ed. Philadelphia:Churchill Livingstone;2008.

4. Scholz HS, Lax S, Petru E, Benedicic C, Winter R. Inguinal lymph node metastasis as the presenting symptom of endometrial cancer: a case report. Anticancer Res 2002;22(4):2531-2

5. Paulussen F, Leyendecker G, Windemuth W. Inguinal lymph node metastasis as primary symptom of endometrial carcinoma (author's transl). Geburtshilfe Frauenheilkd 1978;38(2):95-7.

6. Chambers JT, Carcangiu ML, Voynick IM, Schwartz PE. Immunohistochemical evaluation of estrogen and progesterone receptor content in 183 patients with endometrial carcinoma. Part II: Correlation between biochemical and immunohistochemical methods and survival. Am J Clin Pathol 1990;94(3):255-60.

7. Dabbs DJ, Sturtz K, Zaino RJ. The immunohistochemical discrimination of endometrioid adenocarcinomas. Hum Pathol 1996;27:172-7.

8. Berezowski K, Stastny JF, Kornstein MJ. Cytokeratins 7 and 20 and carcinoembryonic antigen in ovarian and colonic carcinoma. Mod Pathol 1996;9:426-9.

9. Takeshima N, Hirai Y, Tanaka N, Yamawaki T, Yamauchi K, Hasumi K. Pelvic lymph node metastasis in endometrial cancer with no myometrial invasion. Obstet Gynecol 1996;88(2):280-2.