Axillary Metastasis in a Patient with Double Neoplasia

A Case Report

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Background

Axillary lymph node metastases in women are most frequently associated with breast cancer. Few cases have been reported to be related to other primary tumors of the breast. Furthermore, emperipolesis, a phenomenon that occurs as a result of the phagocytosis of hematopoietic cells by neoplastic cells, is observed in few tumors.

Case

A 72-year-old woman presenting endometrial and breast cancer developed axillary metastasis 2 months after diagnosis of breast cancer. A fine needle aspiration was performed. A diagnosis of metastasis from endometrial cancer was made on the basis of cytological characteristics.

Conclusion

The morphologic features in this case (emperipolesis) oriented as axillary metastases from primary endometrial cancer. (Acta Cytol 2010;54:1133–1135)

Keywords: aspiration cytology, fine-needle; axillary lymph nodes; breast carcinoma; endometrial carcinoma; metastasis.

Axillary lymph node metastasis in women is the most frequent primary tumor of the breast. Furthermore, some primary breast tumors metastasize to axillary lymph nodes more frequently than endometrial cancer, as skin cancer (melanoma), lung cancer, pancreatic cancer, gastrointestinal tract cancer, thyroid gland carcinoma, ovarian carcinoma, and renal carcinoma.1,2 The cytomorphic data can help the cytopathologist identify a primary tumor.

Case Report

A 72-year-old woman presented palpable left axillary lymph nodes of 1 month’s duration. A fine needle aspiration was performed. Eight months earlier the patient underwent a hysterectomy and bilateral anexec...
tomy for well-differentiated grade I endometrioid endometrial carcinoma, with myometrial and parametrial vascular invasion (Figure 1). After 2 months, she presented with a tumor in the left breast, which was subsequently surgically excised. The pathologic diagnosis was ductal infiltrating breast carcinoma grade II/III with perineural invasion (Figure 2).

A fine needle aspiration of the axillary lymph nodes was performed. Alcohol-fixed smears were stained with Papanicolaou stain. The smears from the aspirates were highly cellular and showed atypical glandular cells in a hemorrhagic background with tumoral necrosis. The atypical glandular cells showed neutrophil emperipolesis (phagocytosis of neutrophils by tumoral cells) (Figure 3).

The definitive diagnosis was metastatic adenocarcinoma of the endometrium.

Discussion

Axillary lymph nodes are invaded mainly by breast cancer. The frequency of axillary metastases of endometrial carcinoma is very low.3-6 In a study of 83 cases of metastatic endometrial carcinoma, Aalders et al3 encountered only one with axillary metastases, whereas Mariani et al5 found only 2 of 142 cases of the same carcinoma showing axillary metastases. In that study the most frequent lymph node metastases were the pelvic and paraaortic lymph nodes, alone or in combination.5 Other authors reported only 2 cases of axillary metastases in 593 endometrial carcinoma cases.6 In this series, the supraclavicular lymph nodes were more frequently affected than axillary lymph nodes. The primary tumors were grades II or III, and neoplastic vascular invasion was detected in these cases.6 Finally, axillary metastases in a patient with breast cancer has been described.7

From the cytologic point of view, neutrophil-tumor cell emperipolesis could provide useful data. This process has been related to gynecologic (cervix, endometrium, ovary),1 digestive (stomach, colon),8 and lung9 tumors. Breast cancer generally shows lymphoid emperipolesis by neoplastic cells, such as in Rosai-Dorfman disease.10 Furthermore, endometrial carcinoma metastasis comprises tumor cell necrosis and hemorrhage, whereas breast cancer metastasis is proteinaceous, without tumoral necrosis.

Immunohistochemical studies can help in the diagnosis using vimentin, which may be positive in endometrial cancer but not in breast cancer, and the GCDFP15 protein, which may be positive in breast cancer but not in endometrial cancer. Hormone re-
ceptors and p53 are not useful for diagnostic purposes.

We conclude that emperipolesis of neutrophil tumor cells provides relevant cytologic data that can assist physicians in diagnosis.

References


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LETTERS TO THE EDITORS

CD10 Immunostaining

To the Editors:

I read the recent publication by Dharan1 with a great interest. Dharan concluded that “CD10 immunostaining is a useful ancillary method in the diagnosis of endometriosis.” CD10 immunostaining might be useful in fine needle aspiration cytologic investigation for decidualized endometrioma.1,2 I agree that the technique might be useful in cytologic assessment of pelvic washings. However, there are some concerns to be discussed. First, the immunostaining for washing fluid is not a routinely performed diagnostic technique. Some possible technical limitations, such as difficulty in cytologic preparations and fixation, can be expected.3 The detection limit of the test has to be clarified. Second, the specificity of DC10 staining for endometriosis in the case of existence of other concomitant pelvic disorders, especially urothelial abnormalities, should be discussed.4

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References


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