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Case Report

An interesting case of uterine tumour: a case report

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ABSTRACT

Metastasis to uterus from extragenital site is very rare. Breast cancer is the most frequent primary tumour metastasizing to uterine corpus with incidence being 47%. We report a case of metastatic carcinomatous deposit in uterus in 56yr old postmenopausal woman who underwent modified radical mastectomy for carcinoma right breast 7yrs ago, and diagnosed to have infiltrating ductal carcinoma, now presented with history of white discharge per vaginum. Ultrasonogram revealed an endometrial polyp. Since the patient was on tamoxifen, suspecting a tamoxifen induced endometrial polyp hysterectomy was done. Histopathology revealed a benign endometrial polyp with extensive carcinomatous deposit in myometrium from breast carcinoma which was confirmed with immunohistochemistry. This case is being presented for its rarity of occurrence and to differentiate these tumours from primary epitheloid tumours of uterus.

Keywords: Breast carcinoma, Epitheloid tumours, Metastasis to uterus

INTRODUCTION

Metastasis to uterus from extragenital site is very rare. Breast cancer is the most frequent primary tumour metastasizing to uterine corpus with incidence being 47%.¹ The most frequent metastatic sites for both primary genital and extragenital neoplasms are ovary and vagina and it is very rare for extragenital tumours to metastasize to female genital tract. Of these extragenital tumours, breast being the most common site followed by stomach (29%), cutaneous melanoma (5%), lung (4%), colon (3%), pancreas (3%) and kidney (3%).²

CASE REPORT

A 56yr old postmenopausal woman who was diagnosed to have carcinoma right breast underwent modified radical mastectomy in the year 2009 and histopathology revealed infiltrating ductal carcinoma. She completed 6cycles of chemo and radiation therapy followed by tamoxifen until March 2012. 4 yrs later she developed white discharge per vaginum for which she has been evaluated in our gynaec department. Ultrasonogram

showed an endometrial polyp for which hysterectomy was done. The hysterectomy specimen was subjected for histopathological examination.

Macroscopically showed a solid yellowish nodule in the myometrium in addition to an endometrial polyp.

Microscopically myometrium shows a malignant neoplasm composed of round to polygonal cells with vesicular nucleus and scant eosinophilic cytoplasm. The cells are arranged in linear cords and groups, separated by normal myometrial tissue. The mitotic activity is 4-6/10hpf with little atypical mitosis. There is no evidence of angiovascular invasion. With the above histological picture and Correlation with a previous history of carcinoma breast a diagnosis of metastatic carcinomatous deposit was made and immunohistochemistry was done for confirmation of diagnosis and to differentiate it from other primary uterine tumours with epitheloid appearance. Immunohistochemistry showed intense positivity for mammoglobin (clone-304-1A5) and E cadherin (EP6).

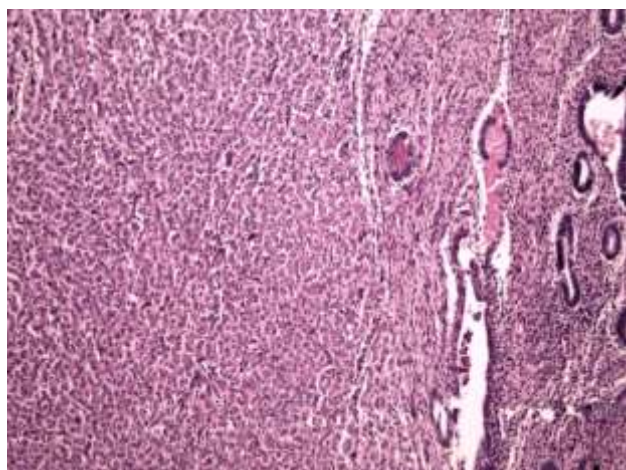


Figure 1: Normal endometrial glands with myometrium showing malignant epithelial cells arranged in sheets – H and Ex4.

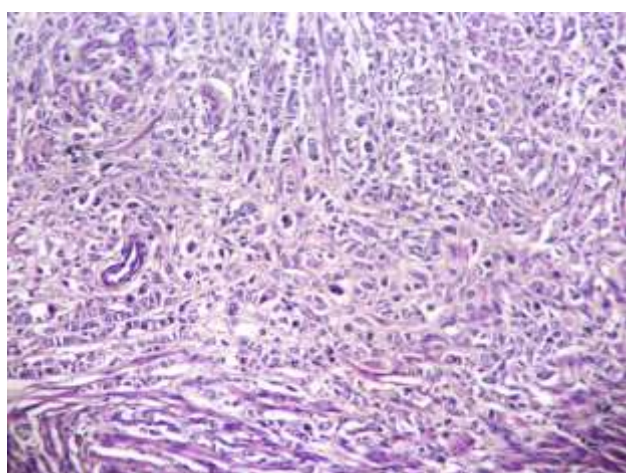


Figure 2: Malignant epithelial cells are round to polygonal with vesicular nucleus and scant eosinophilic cytoplasm arranged in clusters and sheets – H and Ex10.

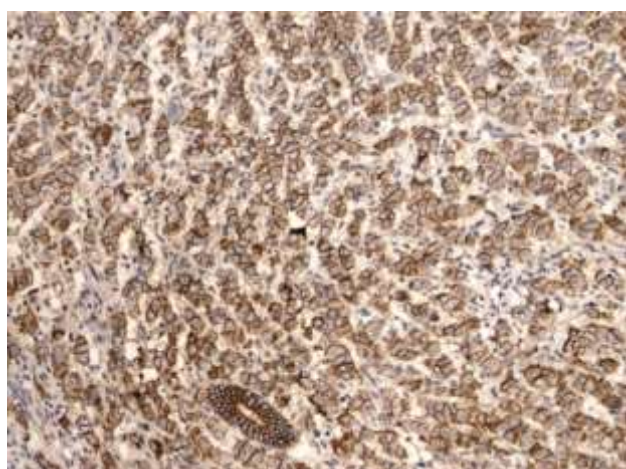


Figure 3: Malignant epithelial cells are E Cadherin positive-IHCx10.

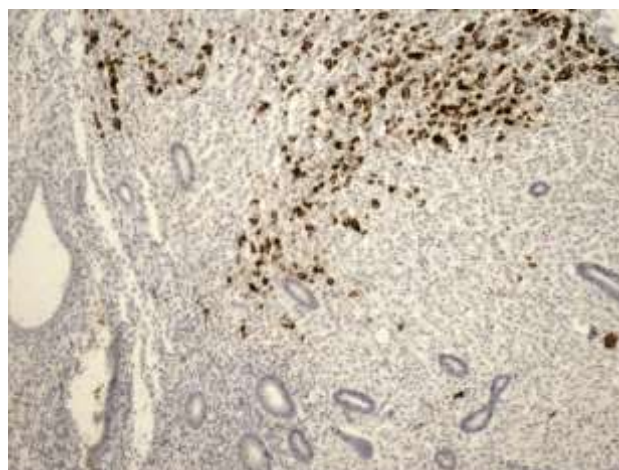


Figure 4: Malignant epithelial cells are Mammoglobin positive-IHCx10.

DISCUSSION

Metastasis from extragenital site to female genital tract is a rare phenomenon. Breast and Gastrointestinal tract are the most frequent sites of primary tumour, and ovary being the most commonly affected site accounting for 75.8% followed by vagina (13.4%), uterine corpus (4.7%), cervix (3.4%), vulva (2%) and fallopian tube (0.7%).^{2,3}

The mean age of patients with extragenital tumours metastasizing to uterus is 60yrs.⁴ Depending on the anatomical distribution the symptom varies, abnormal uterine bleeding being the most common symptom when endometrium is involved but myometrial involvement tends to be asymptomatic.

In the uterine corpus, myometrium is the most common site of metastasis, with incidence of 63% followed by endometrium and myometrium (32.7%) and only endometrium (3.8%).⁵ In our case also endometrium is normal, only myometrium is infiltrated with tumour cells.

Based on intratumoral and intertumoral heterogeneity and phenotypic evolution during disease progression, breast cancer metastasize to other organ. Invasive lobular and invasive ductal carcinoma has different patterns of metastasis. Ductal carcinomas metastasize to liver, lung and brain whereas lobular carcinoma metastasizes to bones, peritoneum, retroperitoneum, GIT and genitourinary tract. Invasive lobular carcinoma has more tendency to metastasize to uterus when compared to ductal carcinoma.⁶⁻⁸

As the morphology of the tumour cells resembles epitheloid in appearance, these tumours must be differentiated from primary uterine tumours with epitheloid appearance.

Epitheloid leiomyoma resembles metastatic epithelial tumours by showing round to polygonal cells with

abundant eosinophilic cytoplasm and round centrally placed nucleus, but lack of cytological atypia, necrosis and mitotic index will help to differentiate this entity from metastasis. Immunohistochemistry will show positivity for smooth muscle actin (SMA), muscle specific actin (MSA).

The malignant counterpart Epithelioid leiomyosarcoma in addition to the above morphological feature they have cytological atypia, tumour cell necrosis and high mitotic index. In addition to SMA, MSA, they show positivity for epithelial membrane antigen (EMA), p16.

Other uterine tumour with epithelioid in appearance is epithelioid trophoblastic tumour which are mononucleate trophoblastic cells associated intimately with eosinophilic fibrillar hyaline like material and necrotic debris, abundant lymphocytic infiltration, and fibrinoid necrosis of vessel walls. Immunohistochemistry will show positivity for human placental lactogen hPL).⁹

CONCLUSION

We presented this case because of its rarity of occurrence and also to highlight the importance to differentiate metastatic tumour from primary epithelioid tumours of uterus.

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Conflict of interest: None declared

Ethical approval: Not required

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