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Case Report

Carcinoma Cervix with A Breast Swelling - Metastasis or A Metachronous Primary? - A Rare Case Report

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Abstract

*Carcinoma cervix, one of the most common gynaecological cancer, rarely presents with solitary metastasis to the breast. Here we present a case of,60-year-old lady with chief complaints of post-menopausal bleeding since4 months & white-discharge since 2months, on further examination she was diagnosed with large-cell-non-keratinising-squamous-cell-carcinoma of cervix, stage IIB. She was treated with external-beam-chemoradiotherapy of dose 50Gy in 2 5fractions in 2Gy/fraction along with cisplatin 40mg/m^2 followed by intracavitary-high-dose-rate brachytherapy of dose 7Gy once weekly for three weeks. Patient had complete response & was on regular follow-up for 8years when she developed a lump in the left breast of size 2*1.5cm in the upper-outer-quadrant, confirmed on PET- CT scan. Histopathology of the swelling along with immunohistochemical staining confirmed it to be a metastatic deposit of squamous-cell-carcinoma, p16 positive & treated with palliative chemotherapy with paclitaxel+ carboplatin for 6cycles with complete response on post-chemotherapy imaging. Now the patient is in remission and close follow up for 1year. Swelling in the breast presents with difficulty in clinical diagnosis requiring histopathological and immuno-histochemical staining for confirmation of secondary-deposit/another metachronous primary. This makes it important for reporting of such cases to aid in development of both diagnostic and managing modalities.*

Introduction

Cervical cancer is the second most common malignancy in females in India [(1)], rarely presents with solitary metastasis to the breast. Cumulative incidence of non-mammary malignancies metastasizing to the breast is nearly 1.7–6.6% based on other post mortem autopsy studies and nearly 0.4–3% in clinical studies[(2)]. It is important to distinguish primary breast malignancy from a metastatic deposit, as it not only changes patient management but also foretells poor prognosis [(3)].

Case Report

A 60-year-old lady presented with chief complaints of post-menopausal bleeding since 4 months & white-discharge since 2 months. On Examination, the patient had ECOGscore1.Per-speculum examination, showed an ulcero-proliferative growth of 5*4cms destroying both the lips of the cervix &involving all fornices & the adjacent upper 1/3 of vagina. Per-vaginal examination confirmed inspectory findings &the lesion bleeds on touch. On per-rectal examination, anal sphincter tone maintained, bilateral nodular parametrium was felt in the medial half not upto pelvic wall. Cervical punch biopsy was done and histopathological examination revealed large-cell-non-keratinizing- squamous-cell-carcinoma [figure 1].

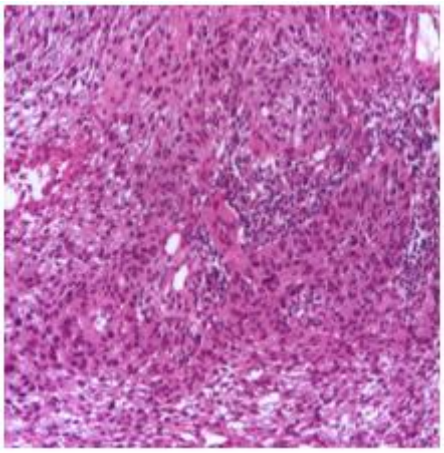

Figure 1

MRI pelvis was done to ascertain the staging and diagnosis of carcinoma cervix stage IIB was established. She was treated with external-beam chemoradiotherapy of total dose 50Gy in 25fractions in 2Gy/fraction five fractions/week once daily over five weeks along with concurrent cisplatin 40mg/m^2 followed by intracavitary high dose rate brachytherapy of dose 7Gy once weekly for three weeks. Patient was on regular follow-up for 8years when she developed a lump in the left breast since 2 months, on examination swelling of size 2*1.5cm, in the upper-outer quadrant of left breast, firm to hard in consistency, fixed to the breast tissue & not to the skin and chest wall was noticed. Mammogram described a BIRADS 4A lesion in the left breast with ultrasound of bilateral breast revealing round to oval shaped, hypoechoic lesion, of size 2*2 cms in the upper outer quadrant of the left breast [figure 2], right breast being normal. PET- CT scan revealed FDG avid solitary uptake in the left breast upper outer quadrant, suggestive of metastasis [figure 3].

Histopathological examination [figure 4] reported as metastatic deposit squamous-cell-carcinoma. The diagnosis was further confirmed by the immuno-histochemical-staining report stating ER[-], PR[-],HER2NEU[-], pancytokeratin [+], P63[+], P16[+][figure 5], P53 [wild type], ki67[80%].

Figure 2: USG

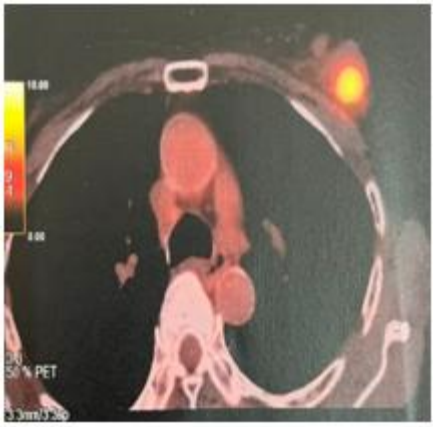

Figure 3: PET-CT.

She was treated with palliative chemotherapy with paclitaxel, 175mg/m^2+carboplatin, AUC 5for six cycles with complete response on post-chemotherapy PET-CT scan using RECIST criteria. Now, the patient is in remission and close follow up for 1year.

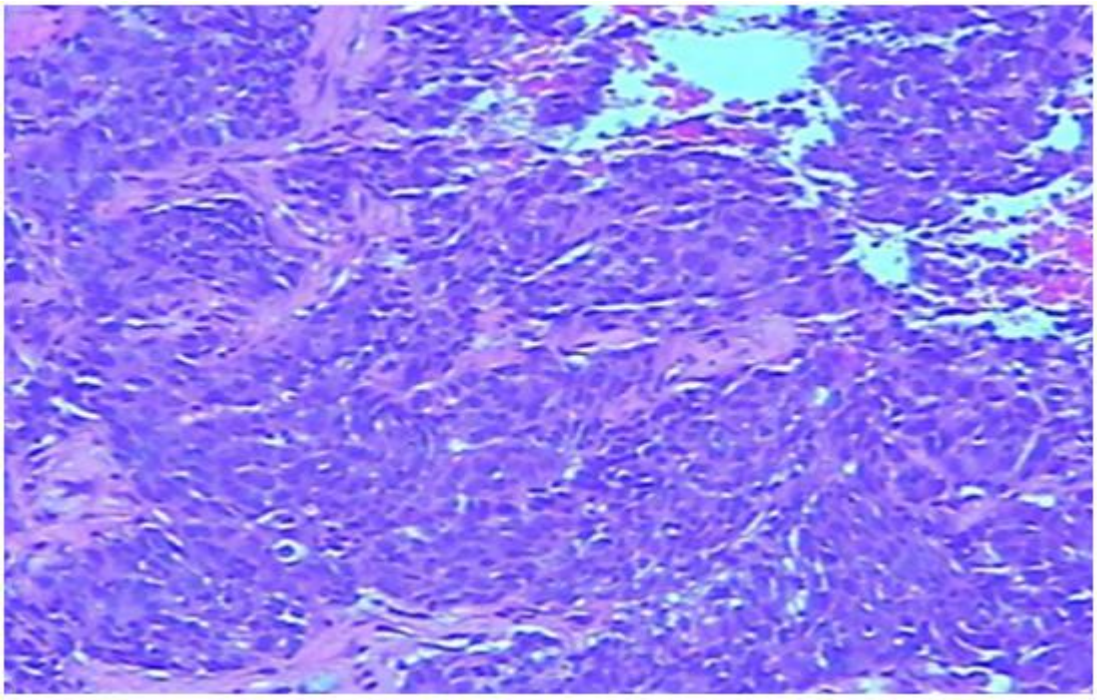

Figure 4: histopathology of breast swelling suggestive of metastatic deposit of squamous cell carcinoma.

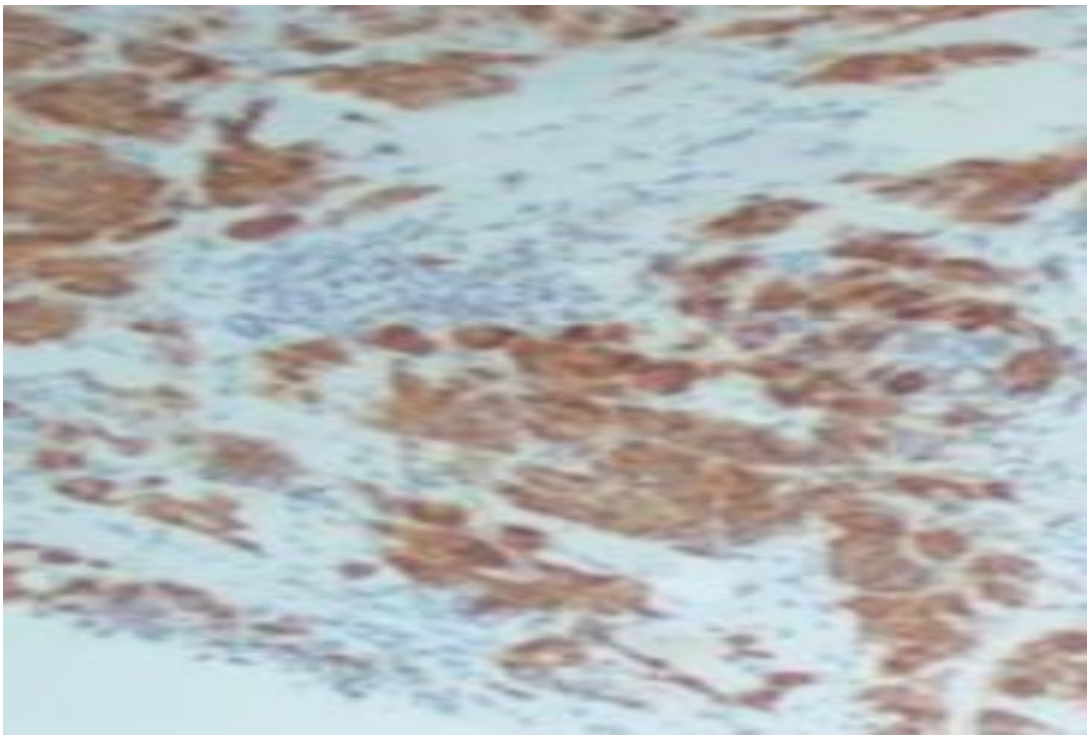

Figure 5: p16 positive IHC.

Discussion

The most common metastasis to the breast comes from the opposite breast[4]. Cervical cancer with metastasis to the breast is rare. Only 38 such cases have been reported with swelling in the breast is assumed to beprimary malignancy unless proven otherwise, thus associated with difficulty in clinically distinguishing between metastasis & metachronous primary. The location ofmassin superficial sub-cutaneous tissue, is a clue towards metastatic deposit[5].

IHC PANEL MOST COMMONLY USED FOR METATSTIC BREAST LESION:

DCIS/LCIS : E CADHERIN, CYTOKERATIN 8/18

MYOEPITHELIAL MARKER: SMOOTH MUSCLE ACTIN, CALPONIN,P63

PROGNOSTIC MARKERS : ER, PR, HER2NEU, KI 67, FACTOR VII RELATED ANTIGEN , VEGF

MAMMARY ORIGIN IN METASTATIS BREAST LEASION: GCDFP, MAMMAGLOBIN,CEA

CERVICAL CANCER : P16,P53,KI67

SQUAMOUS CELL ORIGIN : CK5/6, P63,

Role of Pathology

- High-grade cytological features, lack of differentiation, diffuse growth, absence of ductal/ lobular-in-situ components, lack of elastosis &sharp transitional border raises the possibility of a metastatic deposit [6,7].
- IHC plays a vital role in confirmation of diagnosis in this case pancytokeratin positivity indicates carcinoma, P63 indicates squamous cell and P16 positivity reveals cervical origin, therefore stating a metastatic deposit.

Role of Radiological Studies

- Mammogram: In *lymphangitic metastasis*, the mammogram shows skin thickening, dense subcutaneous tissue, a thick trabecular pattern along with dense& irregular stroma. In *hematogenous metastasis*, mammogram shows unilateral/bilateral, solitary/multiple, round masses with circumscribed ill-defined borders[8].
- Ultrasound: *Lymphangitic metastasis*, show hypoechoic masses with LN enlargement, diffuse skin thickening, obliteration of subcutaneous fat & lymphatic dilatation secondary to mechanical obstruction of the draining lymphatics. *Hematogenous metastasis,* are round to oval in shape, well circumscribed without desmoplastic reaction, spiculations, calcifications, architectural distortion/retro tumoral acoustic shadowing[9].
- MRI is useful in young patients withdense breast parenchyma, and CT scan shows multiple circumscribed masses bilaterally with lymphadenopathy

Conclusion

Cervical cancer metastasizing to the breast is rare and we present one such case of stage IIB carcinoma cervix presenting with a breast lump 8 years after treatment. A second tumor, needs a high index of suspicion regarding the possibility of a metastatic deposit in the breast.

Distinguishing a primary breast tumor from a metastatic deposit not only changes treatment of the patient, but also predicts a poor prognosis. This highlights the necessity of thorough radiological and pathological investigation including histological comparison to the original tumor and molecular markers to differentiate a metachronous primary from metastasis.

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