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IS IT A BREAST CARBUNCLE? NOT ALWAYS, IT CAN BE A SYSTEMIC ANAPLASTIC LARGE CELL LYMPHOMA!

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INTRODUCTION:

Anaplastic large cell lymphoma (ALCL) is a rare type of T-cell lymphoma which accounts for an approximate 2% of adult Non-Hodgkin lymphoma. It is mainly subdivided into 3 types, namely primary systemic ALCL, primary cutaneous ALCL (PC-ALCL), and breast implant-associated ALCL (BI-ALCL). Location and the cancer cells' characteristics are used to classify the various types of ALCL. Primary systemic ALCL usually affects the lymph nodes. It can be anaplastic lymphoma kinase (ALK) - positive or ALK-negative. Extra-nodal sites involvement can occur in lungs, liver, bone marrow, bones, skin and soft tissues other than lymph nodes. Primary cutaneous ALCL starts in the skin and may spread to nearby lymph nodes, but it is less aggressive than primary systemic ALCL. Systemic ALCL that involved breast is extremely rare.

CASE REPORT:

We present a case of non-implant breast ALCL that mimicking breast carbuncle. A 60 years old patient, who is known case of diabetes mellitus, hypertension and newly diagnosed systemic anaplastic large cell lymphoma, presented with four days history of left breast swelling and pain during 5th cycle of chemotherapy CHOP regime. There's not associated with systemic features like fever, night sweats, or fatigue. Clinically, it's appeared like a 4x4cm carbuncle at the left outer quadrant. On laboratory investigation, white cell counts were elevated (19.6). Wound debridement was performed. The cut surface showed a yellow white area with slough material. Microscopic examinations demonstrated large area of neutrophils forming abscess with malignant lymphoid cells. Immunohistochemistry showed positivity for CD4, CD7, CD30 , ALK, EMA, cytotoxic molecule TIA1 and negative stains for CD2, CD3, CD5, CD8, CD20, CD56. Therefore, this case was diagnosed as ALK positive ALCL of left breast.

DISCUSSION:

Breast lymphoma (BL) is an uncommon form of extra nodal lymphoma. This could be attributed to paucity of lymphoid cells in the breast. The behaviour of breast lymphoma is aggressive and has poor outcome as compared to extra nodal lymphomas of alternate sites. BL is predominantly reported in women in 95- 100% of cases. There is bimodal age distribution in BL with one group being young women with bilateral involvement and the other group being older women with unilateral involvement usually. There is tendency of right breast involvement in BL but the reason remains unexplained. This finding is in contrast to our study where the left breast was involved. BL clinically manifests as painless palpable breast mass mimicking breast carcinoma but tends to be larger than carcinomas. This feature is different from our case as our patient presented with infected breast mass during chemotherapy. Features of inflammatory breast carcinoma characterised by oedema, erythema of the overlying skin with peau de orange appearance are less commonly seen in BL. Nevertheless, such features have been reported in few cases of breast lymphomas with high grade features.

BL have variable imaging presentation with differential diagnoses ranging from benign entities such as abscess, mastitis, fibroadenoma to malignant lesions like breast carcinoma. Therefore, the diagnosis of BL based on clinical and radiological findings is very difficult and challenging. FNAC and biopsy techniques remain the diagnostic modality in BL. The role of FNAC in diagnosis of breast lesions is well established with sensitivity of up to 95% and diagnostic accuracy of up to 98.9%. Cytological evaluation of our case revealed necrosis and inflammatory cells only. Heffernan et al reported a case of nodal ALCL misdiagnosed as abscessed metastatic carcinoma on cytology and mentioned that a neutrophil rich variant of ALCL may mimic abscess causing diagnostic difficulties. Similarly, other studies have supported that suppurative ALCL can cytological mimic a wide spectrum of conditions ranging from lymphadenitis to anaplastic carcinoma, melanoma or Hodgkin lymphoma. Therefore, the potential pitfall of FNAC must always be kept in mind while dealing with breast lesions. Our case has further emphasised that biopsy should be performed for definitive diagnosis in suspected lesions. Sub-typing of the lymphoma should be done to establish the management and prognosis of the patients.

CONCLUSION:

In summary, T cell lymphoma with extra nodal involvement of the breast is rare entity. Although rare, breast lymphoma should be considered in any differential diagnoses of breast lesions. Neutrophil rich variant of ALCL involving the breast can mimic breast abscesses or inflammatory breast disease. High index of suspicion by clinical and radiological features are important. Tissue biopsy is superior than FNAC in diagnosis of ALCL. Management of ALCL should be discussed during multi-discipline meeting.

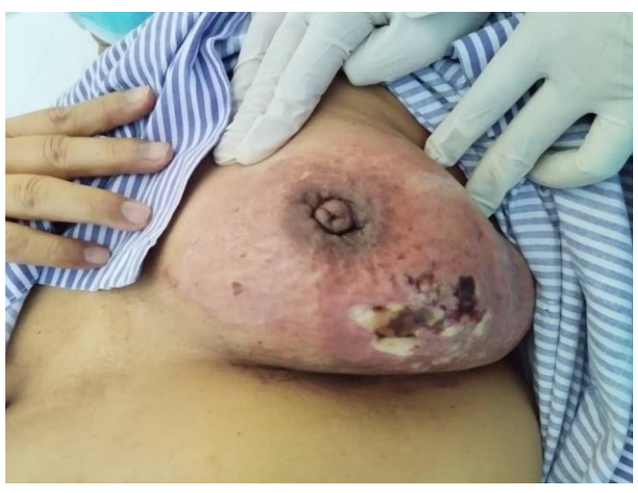

Figure 1:
Pre-operative
Left Breast

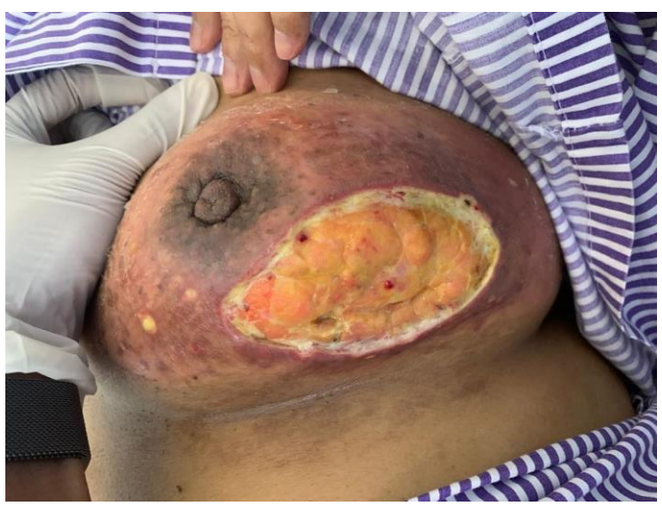

Figure 2:
Post-operative
Left Breast

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