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Case Report

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Comparing diagnostic pathway of two patients squamous cell carcinoma of the breast-favourable diagnostic input of CESM

Abstract

The vast majority of diagnosed squamous cell carcinomas (SCC) are located in the skin, few present within internal structures. Primary breast SCC is a rare unusual tumor, constituting less than 0.1% of all breast carcinomas.[1] Literature reviews mention just about 100 cases of breast SCC to date, but most of the cases are included in a variety of histologic patterns reviews in addition to SCC.[2] Clinical and radiologic appearances of breast SCC are not specific which may cause delays in the correct diagnosis of this rare but quite aggressive type of breast cancer. This article demonstrates two cases of breast SCC diagnosed in Kettering Breast Unit in the last five years and difference in their diagnostic pathway due to the utilisation of contrast enhanced mammography for the second patient.

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Introduction

The diagnosis of primary SCC of the breast is made in the absence of an associated primary SCC in a second site and in the absence of skin involvement. Squamous cells are normally not found inside the breast, so a primary squamous cell carcinoma of the breast is an exceptional phenomenon. Reported here are two cases of primary breast SCC presenting initially as complex cysts. However, in the literature there are examples of different presentations, for example starting as an abscess.[3]

Case 1

A 67years old lady presented with large, painfull lump in the right axillary tail which appeared suddenly after active prolonged gardening. The first ultrasound scan demonstrated a 6cm cyst/fluid collection which was suspected to have been caused by a possible rupture of the big pectoralis muscle. Axilla at the first presentation was unremarkable and blood was drained from suspected haematoma. The haematoma refilled after 7days and forther aspirate was sent to cytology which demonstrated C5 abnormal cells with squamoid features. The patient was referred for repeat ultrasound and core biopsy. Before biopsy of the bizarre by now looking cystic structure (Figure 1) was again drained and the solid looking component of the walls biopsied. Histology reported features in keeping with poorly differentiated squamous cell carcinoma. A dark lymphnode biopsied at the same time proved to be metastatic.

Chest CT with contrast demonstrated a large (8.7cm x 7.9cm x 6.4cm) mixed attenuation partly cystic partly solid mass is seen occupying most of the right axilla and demonstrates patchy enhancement. A couple of sub cm lymph nodes are seen in the vicinity (Figure 2). The patient proceeded to have WLE and ANC followed by radio and chemotherapy. Unfortunately SCC admixed with Grade 3 NST cancer recurred locally and distant metastases developed within a year.[4]

Case 2

A symptomatic 60years old patient attended 1 Stop Clinic with new P3/4 new mass in the upper outer quadrant of the left breast. Left breast tomosynthesis demonstrated benign appearances in keeping with a possible cyst, 3.6cm in the upper outer quadrant of the left breast T2.[5]

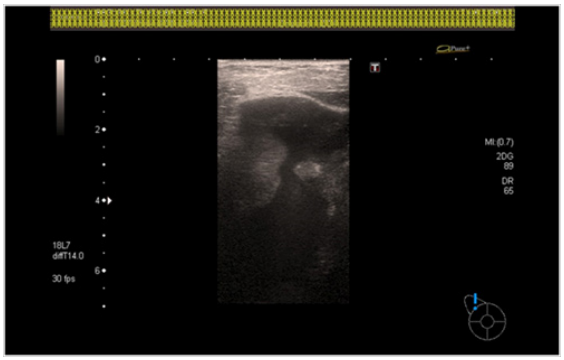

Figure 1 Before biopsy of the bizarre by now looking cystic structure.

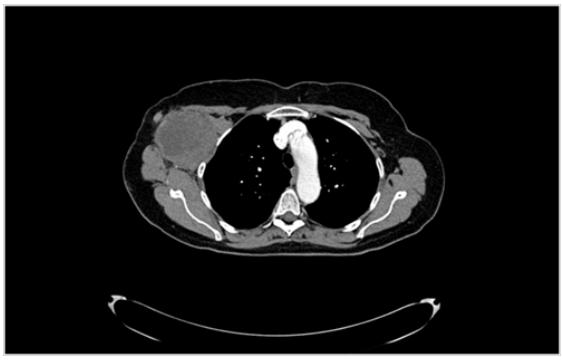

Figure 2 Chest CT with contrast demonstrated a large (8.7cm x 7.9cm x 6.4cm) mixed attenuation partly cystic partly solid mass is seen occupying most of the right axilla and demonstrates patchy enhancement. A couple of sub cm lymph nodes are seen in the vicinity.

Cytology report stated

The appearance is unusual. If the cyst was truly in the breast and not in a subcutaneous position, the appearance may indicate squamous metaplasia/neoplasia in a cyst that has arisen in fibrocystic disease. Squamous lined cysts of the breast are rare but have been described.

Per MDT decision patient was referred for contrast enhanced spectral mammography (CESM)The low energy image identical to conventional FFDM images (Figure 3) demonstrates a moderate/ low density round structure with partially obscured posterior margin. Figure 4 recombined high energy image demonstrating areas of increased contrast uptake in the breast was more revealing and radiologically suspicious. The known cyst structure demonstrated slightly heterogeneous internal part and ill-outlined thickened up to 3mm enhancing wall. Normal simple cysts do not enhance on CESM, therefore this lesion was graded CESM 4. Vacuum assisted biopsy of the drained cyst remnants demonstrated SCC admixed with high grade NST. The patient opted for mastectomy, had chemotherapy and at the moment is in good health under 5years follow up surveillance (Figure 5).

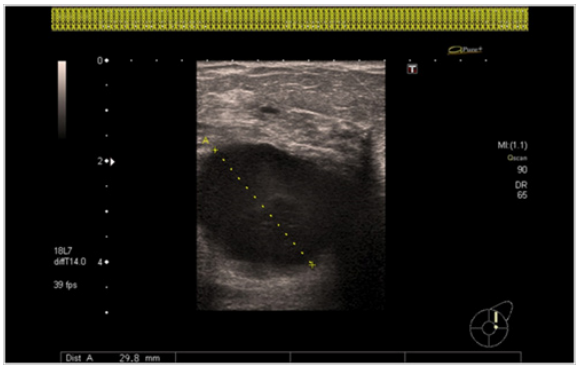

Figure 3 Left breast targeted ultrasound demonstrated a deeply located 30 mm thin walled cyst with single septation. Cyst content was sonographically clear with some sedimentation at the bottom. Drained blood stained fluid was sent to cytology.

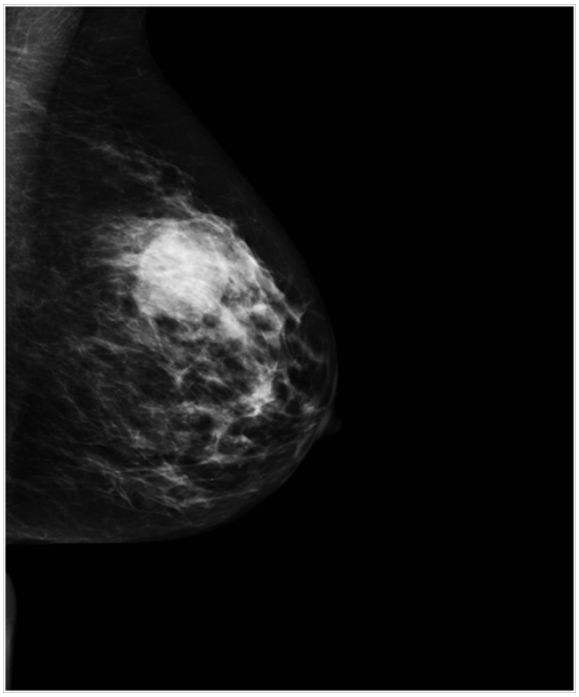

Figure 4 The cyst structure demonstrated slightly heterogeneous internal part and ill-outlined thickened up to 3 mm enhancing wall.

Discussion

SCC of the breast was first reported in 1908 by Troell.[6] It is thought to arise directly from the epithelium of the mammary ducts, although an alternate theory is that the tumor arises from foci of squamous metaplasia within a preexisting adenocarcinoma of the breast.[7] Breast SCCs are generally large (usually over 4cm) at presentation and cystic in more than 50% of cases..[8] CESM is similar in concept to enhanced breast MR imaging and could potentially be applicable in situations in which MR imaging is currently used as well as problem solving in cases of mammographic findings that were not depicted in additional mammograms (FFDM) or US scans.[9,10]

Figure 5 Vacuum assisted biopsy of the drained cyst remnants demonstrated SCC admixed with high grade NST.

Dromain et al. confirmed that the initial clinical results show that CESM has better diagnostic accuracy than mammography alone and combined FFDM and ultrasound.[11]

Patients with SCC and other P4-5 masses benefit from the use of CESM in the setting of One stop symptomatic clinic at their first presentation instead of FFDM as multifocality and level of suspicion could be gauged on the day and correct sampling performed immediately. While MRI and CESM provide comparable imaging results, immediate use of CESM couldt potentially save three weeks of patient's diagnostic journey. Conventionally MRI would be booked after results of FNA discussion on multidisciplinary meeting (MDT). Subsequent second MDT discussion would be required to discuss MRI results and request biopsy and the third MDT to discuss biopsy result and treatment options. Both options should be individually considered in special cases. MRI might be declined by claustrophobic patients, but it's not an issue with CESM. On the other hand breast implant augmentation is currently incompatible with CESM use. Both methods require cannulation and use of a contrast agent with small potential to cause allergic reaction. CESM provides images which are more familiar to surgeons with the same breast proportions as FFDM. The last but not the least is frugal consideration as CESM provides the same range of information for the fraction of breast MRI cost.[12–14]

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Conclusion

Squamous cell carcinoma of the breast is rare and aggressive disease. Its existence underlines the importance of timely full triple assessment of complicated cysts and breast abscesses. Contrast enhancing spectral mammography as adjunct imaging method provides helpful additional information about neovascularization and could be highly recommended in suspicious cases in order to improve diagnostic pathway and ensure adequate timely treatment.

Acknowledgments

None.

Conflicts of interest

Author declares there are no conflicts of interest.

References

1. Rosen PR. Rosen's Breast Pathology. Chapter 19. Lippincott Williams & Wilkins: Philadelphia, USA; 1997. 455–461 p.
2. Behranwala KA, Nasiri N, Abdullah N, et al. Squamous cell carcinoma of the breast: Clinico- pathologic implications and outcome. *Eur J Surg Oncol.* 2003;29(4):386–89.
3. Tayeb K, Saâdi I, Kharmash M, et al. Primary squamous cell carcinoma of the breast: Report of three cases [French]. *Cancer Radiother*. 2002;6(6):366–368.
4. Pickles MD, Lowry M, Gibbs P. Pretreatment prognostic value of dynamic contrast-enhanced magnetic resonance imaging vascular, texture, shape, and size parameters compared with traditional survival indicators obtained from locally advanced breast cancer patients. *Invest Radiol.* 2016;51(3):177–1785.
5. Ryckman EM, Murphy TJ, Meschter SC, et al. AIRP Best Cases in Radiologic-Pathologic Correlation: Metaplastic Squamous Cell Carcinoma of the Breast. *Radiographics.* 2013;33(7):2019–2024.
6. Troell A. Zwei Falle von Palttenepithelcarcinom. *Nord Med Ark*. 1908;1:1–11.
7. Farrand R, Lavigne R, Lokich J, et al. Epidermoid carcinoma of the Breast. *J Surg Oncol.* 1979;12(3):207–211.
8. Cardoso F, Leal C, Meira A, et al. Squamous cell carcinoma of the breast. *Breast.* 2000;9(6):315–319.
9. Tenant SL. An introduction to contrast enhanced spectral mammography. *Rad Magazine*. 2015;42(490):23–**2**4.
10. Lobbes MB, Smidt ML, Houwers J, et al. Contrast enhanced mammography: Techniques, current results and potential indications. *Clin Radiol*. 2013;68(9):935–944.
11. Dromain C, Thibault F, Diekmann F, et al. Dual energy contrast-enhanced digital mammography. *Eur Radiol*. 2011;21(3):565–574.
12. Lobbes MB, Lalji UC, Nelemans PJ, et al. The quality of tumour size assessment by contrast enhanced spectral mammography and the benefits of additional breast MRI. *J Cancer.* 2015;6(2):144–150.
13. Fallenberg EM, Dromain C, Diekmann F, et al. Contrast -enhanced spectral mammography versus MRI:Initial results in the detection of breast cancer and assessment of tumour size. *Eur Radiol.* 2014;24(1):256–264.
14. Hobbs MM, Taylor DB, Buzynski S, et al. Contrast-enhanced spectral mammography (CESM) and contrast enhanced MRI (CEMRI): Patient preferences and tolerance. *Journal of Medical Imaging and Radiation Oncology*. 2015;59(3):300–305.

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