CASE REPORT

Axillary accessory breast carcinoma masquerading as axillary abscess: a case report

Shu Yu Lim, MD[1], Shir Lee Jee, MD[2], Tikfu Gee, MS[1], Nor Aina Emran, MD[2]

[1]Department of Surgery, Universiti Putra Malaysia, Faculty of Medicine and Health Sciences, Serdang, Selangor, [2]Breast and Endocrine Unit, Department of Surgery, Hospital Kuala Lumpur

SUMMARY

Accessory breast is a frequently seen developmental breast abnormality, commoner among Asians than Caucasians. This ectopic breast tissue shares many similarities as the normal breast tissue, and although subjected to the same pathological processes, accessory breast carcinoma is rare. As locations of the accessory breast may be variable, detection of pathological lesions through clinical examinations and standard diagnostic tools (i.e., mammogram) can be difficult. Staging and management should be tailored-made according to the location of the accessory breast as well as its known pattern of lymphatic drainage. We report a case of an intra-ductal carcinoma occurring in an axillary accessory breast.

KEY WORDS:
Accessory, breast, carcinoma

CASE HISTORY

A 76-year-old Indian lady presented to the emergency department with complaints of a swollen and painful left axillary accessory breast. She had noticed that her accessory breast was increasing in size for the last two weeks but it was the pain and inability to raise her arm that finally brought her to the hospital. She has multiple medical co-morbidities including hypertension, ischaemic heart disease, severe mitral valve insufficiency and a multinodular goitre. She was ambulating poorly despite having a bilateral knee replacement done seven years earlier. Married with five children, she breastfed all her children for at least a year and recalled that both her axillary accessory breasts were swollen during lactation. However, she did not breast feed with her accessory breasts. She attained menarche at the age of 13 years and was reached an early menopause at 42 years of age.

On physical examination, the left axillary accessory breast measured 10 by 15cm. It was tender, fluctuant in the centre. The nipple could not be clearly visualised. She also has a right accessory breast resembling a complete breast with a nipple-areolar complex. A diagnosis of left accessory breast abscess was made and drainage was performed under emergency. As the mass looked suspicious, a biopsy was taken which showed an infiltrating ductal carcinoma. Subsequently, a mammogram of the normal breasts and an ultrasound of the right axillary accessory breast were carried out. No additional abnormalities were detected. An ultrasound of the liver and a chest x-ray were also normal.

An elective accessory mastectomy and level II axillary dissection were performed. The accessory breast was removed en-bloc with the axillary lymph nodes (Figure 1 and 2). The post-operative period was uneventful and the patient was discharged well. Macroscopically, the tumour was 5 by 8cm, and the largest lymph node measured 2.5cm. Histological examination revealed a Grade II (Bloom and Richardson) intra-ductal carcinoma, positive for oestrogen receptors (ER) and C-erbB-2 oncoproteins but negative for progesterone receptors (PR). There was presence of ductal carcinoma in-situ throughout the accessory breast. Out of the 22 lymph nodes yielded, seven were positive for metastases. A post-operative bone scan did not reveal any metastases to the bones.

She did not receive chemotherapy in view of her age and cardiac condition. As the surgical margins were free of tumour and a level II lymph node dissection carried out, radiotherapy was deemed unnecessary. The only post-operative treatment she is receiving is Tamoxifen. She has been monitored in the clinic regularly for the last 38 months and has remained disease free.

DISCUSSION

Breast development is identical for both genders until puberty, when the glandular tissue begins to respond to hormonal changes. Beginning as mammary ridges in the cranial end at the first month of embryonic development, a solid epithelial bud eventually forms from these ridges and grows into the underlying mesenchyme. At the end of the third month, this primary bud stems out to form secondary buds which develop into lactiferous ducts and their branches of the mammary gland, including the nipple. The mammary ridges are thickened strips of ectoderm extending from the axilla to the groin symmetrically on both sides. These parallel ridges are known as the "milk ridge" or "milk line". While all of the ridges involutes except those at the cranial end, failure to do so results in the formation of ectopic breast tissue or nipple along this milk line. Aberrant breast tissue is rare below the umbilicus or outside the milk ridge.

Aberrant breast is a frequently seen developmental abnormality, commoner among Asian population than among Caucasians.[1] It is purportedly more common among

This article was accepted: 4 October 2016
Corresponding Author: Lim Shu Yu, Department of Surgery, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, 43400 Selangor, Malaysia Email: 2705xy@gmail.com

Fig. 1: Left axillary accessory breast carcinoma with central ulcer, post abscess drainage.

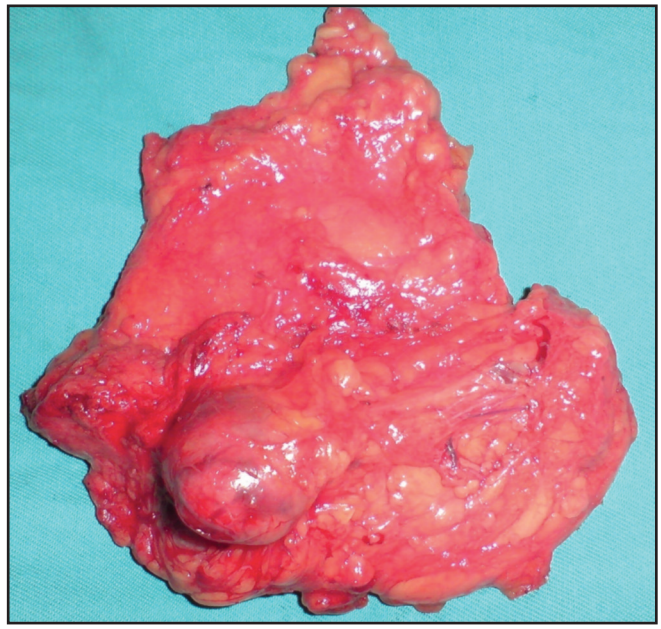

Fig. 2: Inferior surface of the excised specimen, showing multiple enlarged axillary lymph nodes. The accessory breast and axillary lymph nodes were removed en-bloc.

the Japanese with an incidence of 3.7-6%.[2] The commonest site of aberrant breasts is the axilla.[1] These aberrant breasts, especially those with a nipple-areola complex, may function like a normal breast during lactation. However, although they share many similarities as normal breasts and are subjected to the same pathological processes, carcinoma occurring in accessory breasts is rare.[3] On the other hand, the incidence of carcinoma in aberrant breast tissue outside the milk line is more common.[4]

The main challenge in the management of aberrant breast lies in detection as they may present anything from a complete breast with glandular tissue, nipple and areola, to just a tuft of hair. Those situated outside the milk line makes detection even more difficult.[4] Hence early development of carcinoma within the aberrant breast tissue may go undiagnosed until they are significantly larger. At the same time, some aberrant breasts may be confused with subcutaneous lipomas and lymph nodes. Axillary accessory breasts are excluded from the image field of conventional screening with mammogram. In this situation, small accessory breasts and masses may be undiagnosed especially if the aberrant breasts are not clinically evident. CT scans or MRI scans may be more superior depending on the location of the aberrant breast.

In a series of 82 cases dating from 1865 to 1994, Marshall et al recommended that aberrant breast carcinomas should be managed according to the TNM staging of breast cancer.[3] It was noted in the same series that 46% of these patients had ipsilateral nodal metastases. Considering this finding, lymph node dissection should be routinely performed for this group of patients. A possible explanation could be because the overlying axillary accessory breast has a closer anatomical relationship to the corresponding draining lymph nodes. Alternatively, sentinel node biopsy for lymph node localisation can be used in the management of an accessory breast cancer.[5] This may be especially useful in aberrant breasts situated in locations other than the axilla or in the midline, where lymphatic drainage could course into either side or to the inguinal nodes.

In conclusion, accessory breasts are not uncommon and are subjected to various pathologies including carcinoma. The management of accessory breast carcinoma parallels that of a normally situated breast carcinoma. Although early detection of accessory breast carcinoma may be difficult, this is a potentially treatable and curable condition.

REFERENCES

1. Marshall MB, Moynihan JJ, Frost A, Evans SR. Ectopic breast cancer: case report and literature review. Surg Oncol 1994; 3(5): 295-304.
2. Hatada T, Ishii H, Sai K, Ichii S, Okada K, Utsunomiya J. Accessory breast cancer: a case report and review of the Japanese literature. Tumori 1998; 84(5): 603-5.
3. Markopoulos C, Kouskos E, Kontzoglou K, Gogas G, Kyriakou V, Gogas J. Breast cancer in ectopic breast tissue. Eur J Gynaecol Oncol 2001; 22(2): 157-9.
4. Bakker JR, Sataloff DM, Haupt HM. Breast cancer presenting in aberrant axillary breast tissue. Community Oncology 2005; 2(2): 117-20.
5. Thorne AL, Jackson A, Yiangou C. The use of sentinel node biopsy in the treatment of cancer of an accessory breast. Breast 2003; 12(2): 153-5.