CASE REPORT

Carcinoma in accessory axillary breast

Seema Khanna,¹ Shashi Prakash Mishra,² Satendra Kumar,¹ Ajay Kumar Khanna³¹Department of General Surgery, Banaras Hindu University, Varanasi, Uttar Pradesh, India²Department of General Surgery, RIMS, Safai, Uttar Pradesh, India³Department of Surgery, Institute of Medical Sciences, Varanasi, Uttar Pradesh, India**Correspondence to**
Professor Ajay Kumar Khanna,
akhannabhu@gmail.com

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SUMMARY

We present a rare case of carcinoma developing in an accessory breast. The patient presented with a progressive lump in her right axilla for 1 year. On examination, there was a well-developed nipple areola complex in the right axilla overlying a hard, fixed 5×3 cm lump. On investigation, core biopsy revealed poorly differentiated carcinoma of the breast. Mammography also revealed features of a malignant lesion with skin and muscle infiltration. Neoadjuvant chemotherapy was administered followed by modified radical mastectomy after three cycles. Immunohistochemistry study showed positive status of oestrogen and progesterone receptors, and negative HER-2 neu. Three more cycles of chemotherapy along with 50 Gy radiotherapy were given in an adjuvant setting followed by hormone therapy.

BACKGROUND

The case presented is a very rare entity. We have seen only two patients in our practice of about 35 years.

CASE PRESENTATION

Breasts develop from the milk line between the armpit and anterior thigh. A range of 0.4–6% of the general population may have breast developmental anomalies. In the classification of ectopic breast tissue by Copeland and Geschickter,¹ accessory nipple or areola formation or both, with or without glandular tissue, is termed supernumerary breast, as opposed to aberrant tissue referring to ectopic breast tissue without a nipple or areola complex. Patients are usually unaware of the presence of accessory breast unless it becomes pathologically involved. The pathological changes may occur in the form of acute inflammation, premenstrual enlargement and neoplasm, which present as arm pain and difficulties with upper limb mobility.²

Primary carcinoma of ectopic breast tissue has been reported only in a small number of cases. Overall, 94% of ectopic breast tumours occur in aberrant tissue and only 6% in accessory breasts.^{3–5} We report a case of carcinoma of accessory breast.

CASE REPORT

A 25-year-old woman presented with a progressive size lump in the right axilla for 1 year. On examination, there was a 5×3 cm mobile non-tender hard lump present in the right axilla with presence of accessory nipple overlying it (figure 1). The medial palpable margin of the lump was around 1 cm lateral to the right nipple areola complex; however, there was no palpable lump in the right breast and the nipple areola complex was normal.

Preoperative core needle biopsy was taken, which revealed poorly differentiated carcinoma of the breast.

Ultrasound of the breast with axilla and mammography revealed features of malignant lesion in the right accessory breast, with infiltration into the pectoralis major and skin infiltration. A few axillary lymph nodes, the largest being 1×1 cm, were also observed. Ultrasound of the abdomen showed presence of metastatic deposits in the liver.

The patient was planned for TAC regimen chemotherapy with docetaxel (75 mg/m²), adriamycin (50 mg/m²) and cyclophosphamide (500 mg/m²) on day 1, to be repeated every 3 weeks. After three cycles of chemotherapy, no palpable tumour was found and ultrasound of the abdomen revealed no liver metastasis. Hence the patient underwent a palliative right modified radical mastectomy (figure 2).

Postoperative histopathology showed no evidence of tumour, and lymph nodes examined were shown to have reactive hyperplasia.

Hormone receptor evaluation in preoperative core needle biopsy sample revealed positive status for oestrogen and progesterone receptors and negative status for HER-2 neu receptors.

Three more cycles of the same chemotherapy were given in an adjuvant setting followed by radiotherapy 50 Gy over 5 weeks. The patient was put on hormone therapy in the form of tablet tamoxifen 20 mg daily, which has been planned to continue for 5 years.

DISCUSSION

Bilateral mammary ridges, known as milk lines, run along the ventral surface of the body from the anterior axillary fold to medial aspect of the inguinal folds. These involute during embryogenesis except in the pectoral region, where they give rise to breast tissue.⁶ Persistence of tissue along these ridges may produce ectopic breast tissue, the

Figure 1 Clinical photograph.

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Figure 2 Specimen photograph.

commonest being in the axilla. This tissue may contain all three elements, parenchyma, areola and nipple, or any combination of them. It is hormone responsive and undergoes physiological changes such as enlargement and milk secretion during pregnancy. Cancer in accessory breasts is rarely described. However, Famà *et al*⁷ reported five cases of breast cancer from among 208 examined accessory mammary glandules. Dhebri *et al*⁸ reported two cases of invasive lobular carcinoma presenting as skin lesions in the axilla. Because of the non-typical location, this neoplasm is diagnosed late, when it has already entered the advanced clinical stage of the disease, as in our patient. The small size of the accessory gland causes rapid infiltration into the skin and the thoracic wall, as well as formation of lymph node metastases. As the accessory gland may be situated in various areas of the body, the lymph may flow through different nodule groups including axillary and inguinal lymph nodes.⁹ Diagnostic procedure and therapeutic management in patients with accessory breast cancer has not been well established.¹⁰ The malignant neoplasm in accessory breast may have a more aggressive course, early surrounding invasion and early metastasis, by virtue of the anatomical location. Treatment strategies may include chemotherapy, surgical treatment, radiotherapy and hormone therapy, which should be customised to target individual patients. The diversity in opinion arises to deal with ipsilateral breast during surgery. Madej *et al*¹¹ suggested that in case of the accessory breast being situated very close to a normal breast and connected to it, the indications for surgery should be the same as in a tumour of the anatomically situated breast and, on the contrary, when the accessory gland constitutes a separate anatomical structure, the resection of normal breast appears to be unnecessary. Some authors describe cases of synchronous breast cancer as well as hidden carcinoma in normal and accessory breast.^{12–13} Furthermore, cases of patients with cancer of the accessory breast in the groin or vulva have been reported.^{12–14–15} In such cases, therapeutic strategy should be determined individually, as the scope of resection surgery differs from the standardised one and may affect even the inguinal lymph nodes.⁹

In our patient, after thorough review of the literature regarding similar cases, we decided to start with aggressive chemotherapy. The tumour happened to be completely responsive to chemotherapy, but as we were still not sure about achieving pathologically negative margins, we performed modified radical mastectomy and not excision of the accessory breast, which some authors have suggested be performed. We have planned to subject the patient to radiotherapy to achieve better loco regional control, as the margins of ectopic breast tissue may not be well defined. Gurjar *et al*¹⁶ reported development of

malignancy in axilla 21 months after a patient had undergone prophylactic mastectomy for lobular carcinoma in situ (LCIS). This suggests that remaining normal breast tissue or ectopic breast tissue is still susceptible to development of malignancy. Hormone therapy in the form of tablet tamoxifen 20 mg once daily for 5 years has been planned.

CONCLUSION

Primary malignancy of accessory breast tissue is a rare entity. Because of not being situated in breast tissue, it may follow a more aggressive course, with early surrounding invasion and early metastasis. Treatment strategies may have many variations, which ideally should be a combination, best suited to the individual, of chemotherapy, surgery, radiotherapy and hormone therapy.

Learning points

- Primary malignancy of accessory breast tissue is rare.
- Because of paucity of surrounding breast tissue, early local invasion is seen.
- Treatment strategies have to be individualised.

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Competing interests None declared.

Patient consent Obtained.

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