

Occult Breast Carcinoma Presenting as an Isolated Axillary Lymphadenopathy: A Case Report

Anjana Gandhi, Raj Shekhar Sharma, Brajesh Kumar

Abstract: *The aim of this paper is to report a rare case of carcinoma breast and to explore current trends in the diagnosis, investigation and treatment of patients presenting with axillary lymph node metastases without a primary in the breast being found the so-called, 'occult' breast cancer. Occult primary breast cancer presenting as axillary metastasis is a rare entity of breast cancer. Diagnosis and treatment represent a real challenge in the absence of consensual attitude. We report here a case of occult breast cancer who presented with metastatic lymph nodes in the axilla. Although histology identified a metastatic adenocarcinoma in the lymph nodes, mammography failed to detect the primary tumor. Immunohistochemistry showed that the biopsied lymph nodes were positive for estrogen receptors, suggesting the breast as the site of the primary tumor. Breast MRI was normal. Axillary dissection was performed with breast conservation followed by, radiotherapy, adjuvant chemotherapy and hormonal therapy. She is under regular follow up without evidence of disease 18 months after surgery.*

Keywords: breast cancer – occult cancer – axillary nodal metastasis

1. Introduction

Breast cancer presents commonly as a lump within the breast. Malignant cells from the primary tumor tend to infiltrate the nearby lymph node. Occasionally, breast cancer presents as an isolated lymphadenopathy, without an obvious breast primary site (<1% of cases). Occult breast cancer (OBC) is generally defined as a tumor that has been clinically diagnosed as having palpable axillary lymphadenopathy with no detection of primary tumor(s) in the breast by either palpation or imaging.

Female patients who present with adenocarcinoma in axillary lymph nodes as the sole clinical site of disease can be a diagnostic and therapeutic challenge. In 1907, Halsted (1) first described two patients with 'extensive carcinomatous involvement of the axilla' due to occult breast cancer: 'In the course of a few months, thereafter, the mammary disease manifested itself in both patients'. Occult breast cancer is uncommon, accounting for fewer than 1% of all breast cancer patients (2–4). This paper describes a case of occult breast carcinoma with an isolated left axillary lymphadenopathy.

2. Case Summary

A 42-year-old woman visited, department of surgery of Rajendra institute of medical sciences, complaining of a painless lump of size 3x3 cm in the left axilla which was hard, nodular in consistency seemed to be a group of matted lymph nodes. (Fig. 1). Clinically, no mass was palpable in the both breast and no nipple discharge was seen.

No signs of abnormality were found in the breast by mammography and MRI. Because the patient did not wish a fine needle aspiration cytology, excisional biopsy of the tumor was performed. Histological examination showed a metastatic adenocarcinoma in the lymph nodes (Fig. 2). The patient underwent a work-up including ultrasonography, computed tomography, barium enema for examination of the neck, chest, abdomen, pelvis and bone, which were all negative for the primary. On immunohistochemistry Estrogen receptor (ER) were

positive (Fig 3), but progesterone receptor (PR) analysis and Her2neu were negative. On above mentioned report, diagnosis of breast carcinoma stage 3 (TON2M0) was established. Patient underwent axillary lymph node dissection. (Fig4). The removed specimen was sent for HPE. Specimen consisted of 14 lymph nodes with metastasis in 3 of them.

Postoperatively, the patient has been treated with adjuvant radiotherapy, adjuvant chemotherapy and hormonal therapy. Follow up of the patient is done. She is well without evidence of disease 18 months after surgery.



Figure 1: A 32 × 40 mm sized tumor is clearly visible



Figure 2: Metastatic adenocarcinoma on HPE

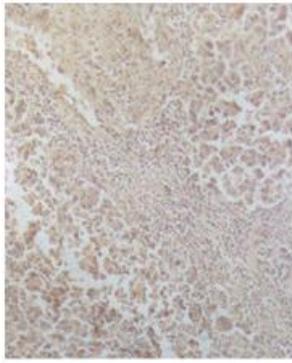


Figure 3: IHC showing estrogen receptor +ve



Figure 4: Photograph of axillary lymph nodes

3. Discussion

A case of isolated axillary metastasis with no obvious primary site, is otherwise called cancer of unknown primary (CUP). Although this malignant syndrome accounts for 3-5% of all cancer diagnosis, the majority of patients still lacks effective therapeutic regimens. Occult breast carcinoma with axillary lymphadenopathy comes under CUP. The management of isolated axillary metastasis from breast cancer is variable. The treatment approach involves definitive surgery, which could be mastectomy with sentinel lymph node biopsy plus or minus completion axillary lymph node dissection, breast conservative surgery, chemotherapy, radiation, and endocrine therapy, as indicated.

A carcinoma found in the axillary lymph node may be caused by primary carcinoma of heterotopic glandular tissue or metastatic neoplasm. Carcinomas arising in the heterotopic glandular tissue should accompany the pre-existing non-neoplastic glandular component and the ectopic tissue may be present in more than one lymph node (5). In the present case, there were no heterotopic glandular tissues in the axillary lymph nodes.

Aside from breast cancer, many other adenocarcinomas have been shown to metastasize to axillary lymph nodes (6).

The most common of these include lung, thyroid, stomach, colorectum and pancreas. Once a diagnosis of metastatic adenocarcinoma on an axillary lymph node has been made in a female patient, there is a tendency to subject the patient to an exhaustive investigation. However, most of these additional tests failed to identify another primary site of carcinoma. Kemeny et al. (7) reported that further diagnostic work-up was unnecessary. Thorough histories, physical examination, screening blood

work and chest roentgenogram are sufficient for locating other potential primary sites of carcinoma.

ER/PR analysis should be performed for two reasons (8, 9). Positive findings are suggestive of breast cancer and these occur in approximately 50% of females. Negative ER/PR do not exclude the diagnosis of breast cancer, however, and it is important to remember that other malignancies (e.g. colon, ovary, endometrium, kidney and melanoma) may demonstrate detectable ER/PR activity (10, 11). The second reason for obtaining ER/PR studies on the initial biopsy is that a primary tumor may never be identified or, if found, may be so small as to render ER/PR assay impracticable (9, 12). Immunohistochemical stains for, ER and PR are recommended for the diagnosis of breast cancer (9, 11). ER are not specific for breast cancer, but their positivity unequivocally supports the diagnosis of metastatic breast cancer. In the present case, tumor markers were all negative, stain of ER were strongly positive.

There have been reports of some cases where the primary breast tumor could not be identified even in radical mastectomy specimens. A primary breast cancer will be not found in the specimen in about one third of the cases the western literature (3, 7, 12) and 16.3% in Japan (4). Occult breast cancer demonstrated an 8–20% incidence of in situ cancer as the primary lesion (3) and this is in contrast to the reported 1% incidence of axillary metastases in series of non-palpable in situ carcinoma of the breast (13). Kyokane et al. (4) reported that the primary tumors of non-palpable breast cancer presenting as an axillary mass were smaller than 5 mm in 19 of 62 cases, and 9 of 72 cases were intraductal carcinoma with or without minimal invasion. Little has been reported on spontaneous regression of the tumor of breast cancer. Ozzello and Sanpitak (14) speculated that either the thorough sampling process failed to locate the primary invasive cancer or, as seen with electron microscopy, invasion through the basement membrane may occur before detection by light microscopy. However, it is not clear that basement membrane invasion that is only detected by electron microscopy has any clinical significance. As after mastectomy also primary could not be identified in one third of total cases we went for breast conservative approach in our case.

The treatment of occult breast cancer remains controversial. Traditionally, the treatment of choice for these patients was radical or modified radical mastectomy (1, 2, 12). Most groups have shown long-term survival with mastectomy to be at least comparable with that for node-positive palpable breast cancer, even when no primary is found in the mastectomy specimen. Recent studies have suggested that there was no statistically significant difference in outcome between mastectomy and breast conservative treatment such as limited resection and/or radiation and/or chemotherapy (3, 7, 15). In recent years, radiation treatment or simple observation has been an alternative to mastectomy (16). The high incidence of early lesions and the current trend toward breast conservation argue in favor of our approach in this case.

The role of adjuvant systemic therapy in occult breast cancer has never been investigated in a prospective randomized fashion. However, there were only a small number of patients, which makes it difficult to detect a statistically significant improvement in survival with adjuvant chemotherapy. The most reasonable recommendation is still that these patients be treated like other node-positive breast cancer patients, with adjuvant chemotherapy or hormonal therapy. Furthermore, since patients with negative ER generally have a poor survival, this prognostic factor may be useful in determining the need for adjuvant chemotherapy.

The overall 10 year survival for patients with occult breast cancer is 50–71% (3, 7, and 15). Survival has not been shown to be dependent on whether the primary cancer in the mastectomy specimen is found (3, 12). Both the nodal and ER status have been shown to be the major prognostic variables (3, 12).

Results and conclusion: An axillary lymphadenopathy without any tumour in the breast can be arising from ipsilateral breast and an aggressive approach with investigation and management may be required for its diagnosis.

Occult primary breast carcinoma with axillary metastases can be treated with preservation of the breast with ALND Adjuvant radiotherapy and chemo-endocrine therapy without a negative impact on local control or survival.

References

- [1] Halsted WS. The result of radical operations for the cure of carcinoma of the breast. *Ann Surg* 1907; 46:1–19.
- [2] Owen HW, Dockerty MB, Gray HK. Occult carcinoma of the breast. *Surg Gynecol Obstet* 1954; 98:302–8.
- [3] Baron PL, Moore MP, Kinne DW, Candela FC, Osborne MP, Petrek JA. Occult breast cancer preserving with axillary metastases: updated management. *Arch Surg* 1990;125:210–4. [CrossRefMedlineWeb of Science](#)
- [4] Kyokane T, Akashi-Tanaka S, Matsui T, Fukutomi T. Clinicopathological characteristics of non-palpable breast cancer presenting as an axillary mass. *Breast Cancer* 1995;2:105–12. [CrossRefMedline](#)
- [5] Edlow CW, Carter D. Heterotopic epithelium in axillary lymph nodes: report of a case and review of the literature. *Am J Clin Pathol* 1973;59:666–73. [MedlineWeb of Science](#)
- [6] Copeland EM, McBride CM. Axillary metastases from unknown primary sites. *Ann Surg* 1973;178:25–
- [7] [MedlineWeb of Science](#) 7 Kemeny MM, Rivera DE, Terz JJ, Benfield JR. Occult primary adenocarcinoma with axillary metastases. *Am J Surg* 1986;152:43–7. [CrossRefMedlineWeb of Science](#)
- [8] Iglehart JD, Ferguson BJ, Shinleton WW, Sabiston DC, Silva JS, Fetter BF, et al. An ultrastructural analysis of breast carcinoma presenting as isolated axillary adenopathy. *Ann Surg* 1982;196:8–13. [MedlineWeb of Science](#)
- [9] Bhatia SK, Saclarides TJ, Witt TR, Bonomi PD, Anderson KM, Economou SG. Hormone receptor studies in axillary metastases from occult breast cancers. *Cancer* 1987;59:1170–2. [CrossRefMedlineWeb of Science](#)
- [10] Grunfest S, Steiger E, Sebek B. Metastatic axillary adenopathy: use of estrogen receptor protein as an aid in diagnosis. *Arch Surg* 1978;113:1108–9. [CrossRefMedlineWeb of Science](#)
- [11] Haupt HM, Rosen PP, Kinne DW. Breast carcinoma presenting with axillary lymph node metastases: an analysis of specific histopathologic features. *Am J Surg Pathol* 1985;9:165–75. [CrossRefMedlineWeb of Science](#)
- [12] Patel J, Nemoto T, Rosner D, Dao TL, Pickren JW. Axillary lymph node metastasis from an occult breast cancer. *Cancer* 1981;47:2923–7. [CrossRefMedlineWeb of Science](#)
- [13] Rosen PP. Axillary lymph node metastases in patients with occult noninvasive breast carcinoma. *Cancer* 1980;46:1298–306. [CrossRefMedlineWeb of Science](#)
- [14] Ozzello L, Sanpitak P. Epithelial stromal junction of intraductal carcinoma of the breast. *Cancer* 1970;26:1186–98. [CrossRefMedlineWeb of Science](#)
- [15] Ellerbroek N, Holmes F, Singietary E, Evans H, Oswald M, McNeese M. Treatment of patients with isolated axillary nodal metastases from an occult primary carcinoma consistent with breast origin. *Cancer* 1990;66:1461–7. [CrossRefMedlineWeb of Science](#)
- [16] Vilcoq JR, Calle R, Ferme F, Veith F. Conservative treatment of axillary adenopathy due to probable subclinical breast cancer. *Arch Surg* 1982; 117:1136–8.
- [17] Survival outcomes of different treatment methods for the ipsilateral breast of occult breast cancer patients with axillary lymph node metastasis: a single center experience. Woo SM, Son BH, Lee JW, Kim HJ, Yu JH, Ko BS, Sohn G, Lee YR, Kim H, Ahn SH, et al. *J Breast Cancer*. 2013 Dec; 16(4):410-6. Epub 2013 Dec