Stridor as the First Presentation of Metastatic Breast Cancer that Was Managed with Chemotherapy: a Case Report

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Abstract

Supraclavicular nodal metastases of breast cancer are rare and occur in about 8% of newly diagnosed cases. It is rarely discussed in the literature that breast cancer was metastasizing to higher levels of the cervical nodes. We report a case of metastatic breast cancer to the deep cervical lymph nodes that caused stridor due to compression of the recurrent laryngeal nerve which was diagnosed by indirect laryngoscopy. After full investigations, urgent chemotherapy was started and it showed a dramatic response with disappearance of the lymph node after two cycles with resolution of the stridor. This report also highlights the association of other metastatic sites with this higher level of neck nodal metastases of breast cancer.

Keywords Breast cancer · Metastatic · Stridor · Computed tomography

Introduction

It is known that patients with supraclavicular nodal metastases due to breast cancer are of intermediate risk categorization between stage IIIB and stage IV (staged as IIIC) [1]. Response to treatment of such patients was shown to be better than other systemic metastatic cases [2]. Since survival outcome of breast cancer with isolated supraclavicular nodal metastases was shown to be superior to other metastatic sites, the target of therapy in those patients was with a radical intent [1]. It is rarely mentioned in the literature that there are nodal metastases to the neck groups higher than the supraclavicular one [3]. We present a rare case which was admitted to our outpatient surgical clinic by a stridor that was associated with

left breast palpable lump. After detailed investigations, it was found to be a metastatic breast cancer with malignant neck nodal metastases compressing the recurrent laryngeal nerve.

Case Presentation

A 61-year-old lady came to the surgical oncology clinic complaining of left breast lump that was associated with stridor with a recent darkness of the skin coloration all over the body.

History Taking

She was diabetic, on insulin 7 years ago, and hypertensive. The condition started 4 months earlier by observation of the left breast lump. Later, she noticed a difficulty of breathing at rest with a sense of impending suffocation without altered deglutition.

On clinical examination, there was a suspicious left breast lump with an ipsilateral malignant-looking axillary lymph node. The breast skin was edematous with thickening that was provisionally categorized as inflammatory type of breast cancer. Indirect laryngoscopic assessment showed a narrowed

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Fig. 1 CT scan of the neck and chest at the level of branches of the aortic arch. There is evidence of malignant lymphadenopathy (arrow) just inner to the left common carotid artery that is compressing the left recurrent laryngeal nerve

glottic opening at rest with an urgent need for tracheostomy. Bilateral sonomammographic evaluation revealed a multicentric left breast carcinoma (largest mass was with a maximal diameter of 8.5 cm) with diffuse breast and skin edema (T4d), a suspicious right breast mass of 7 mm size with a fine microcalcifications, and bilateral malignant-looking axillary lymph nodes (multiple in the left and one in the right were suspicious). Then, bone scan and pan CT (multi-detector computed tomography “MDCT”) of skull base, neck, chest, abdomen, and pelvis was decided.

Pan CT Technique

This scanning was performed using Brilliance 64 (Philips Healthcare, Best, Netherlands). It was done with 3 mm slice thickness. The post-contrast study was performed using 120 ml of low osmolar non-ionic contrast medium (ioversol; Optiray 350) at a flow rate of 5 ml/s. All images were transferred to the workstation [Extended Brilliance Workspace V3.5.0.2254 (EBW)] for post processing. The images were viewed on soft tissue and bone setting.

Fig. 2 **a** At the level of the axilla, there is a malignant left axillary lymphadenopathy. **b, c** At the level of the breast, there are two malignant left breast masses. A deeper one invades the

pectoralis major muscle. **d** At the level of the upper abdomen, there are bilateral suprarenal metastases

Table 1 Biologic markers of the case

ER: strong positive staining in more than > 67% of neoplastic cells (score 8/8)
PR: negative staining of neoplastic cells (score 0)
Her-2 neu: moderate complete membranous activity in > 10% of tumor cells (score +2)
Ki 67: positive staining in 50% of neoplastic cells

Imaging Findings

It showed a small metastatic osteolytic bony lesion in the mid-thoracic vertebrae, a malignant lymphadenopathy just inner to the origin of the left carotid artery that is compressing the left recurrent laryngeal nerve (Fig. 1), two breast masses with malignant characters (Fig. 2b, c) that are associated with a malignant left axillary lymphadenopathy (Fig. 2a), bilateral suprarenal metastases (Fig. 2c), and two left cerebral parietal lobe metastases (leptomeningeal in location) with the largest one measuring 2 cm.

Tissue Diagnosis

A core needle biopsy was taken from the left breast mass and it revealed an invasive ductal carcinoma. Table 1 shows details of its biologic markers.

The Response to an Urgent Chemotherapy Protocol

Immediately, the patient started AC protocol every 3 weeks (Adriamycin 60 mg/m² cyclophosphamide 600 mg/m² BSA). The first cycle achieved a good clinical response, stridor was relieved, and she was able to recline. Further clinical improvement regarding respiratory symptoms was achieved after the

second cycle. Radiologic reevaluation was ordered after the second cycle which confirmed a satisfactory laryngeal inlet (Fig. 3a) and complete response of the neck lymphadenopathy (Fig. 3b). As regards brain metastases, the patient was referred to the radiation oncology and neurosurgical teams for proper decision as regards the further management.

Discussion

Supraclavicular nodal metastases are rare with breast cancer and these occur in about 8% of newly diagnosed cases [4, 5]. It is rarely discussed in the literature that breast cancer was metastasizing to higher levels of the neck nodes than the supraclavicular group (4). In a study by Sesterhenn and his coworkers [3], nodal metastases to the neck were 66.7% in region V (8/12 cases), area IV 58.3% (7/12 cases), 50% in area III (6/12 cases), and 8.3% in area II (1/12 cases) with no recorded metastases in region I or VI. In his study, five patients out of 12 (41.7%) developed other distant metastases after the initial detection and management of neck node metastases within a 6-month interval [3]. We show a very rare presentation of neck nodal metastases that compressed the recurrent laryngeal nerve causing stridor. The management of this stridor was simply carried out with chemotherapy as first aid. The second observation that we noticed is the close association with a diffuse metastatic process when the nodal secondaries are in a higher level than the supraclavicular group. Most of the recent literatures categorized isolated cervical nodal metastases to the supraclavicular group to be a locally advanced disease rather than a distant metastatic one [6]. Some advocated surgical management as an initial line of treatment for neck node metastases with a modest 5-year survival approaching 30% [4, 7]. Some advised combined

Fig. 3 Follow-up after 40 days. CT scan of the neck and upper chest. **a** At the level of the vocal cord, there is normal laryngeal inlet. **b** At the level of branches of the aortic arch, there is a complete disappearance of the previous malignant lymphadenopathy just inner to the left common carotid artery

chemotherapy and a radical dose of radiotherapy [8]. Nevertheless, we must be aware that the presence of these higher metastatic levels is usually a mirror of systemic spread with a high possibility of other coincident metastatic process.

Conclusions

Although metastases of breast cancer to higher levels of cervical lymph nodes are very rare, it is reported by this study to compress the recurrent laryngeal nerve causing stridor that was managed successfully with chemotherapy.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

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