대한두경부종양학회지, 제33권 제2호, 2017. pp.67-70
Korean Journal of Head & Neck Oncology, Vol.33, No.2
http://doi.org/10.21593/kjhno/2017.33.2.67
ISSN 1229-5183(Print) / ISSN 2586-2553(Online)

음성변화를 주증상으로 내원한 유방암의 경부연조직 전이환자 1례

이형민[1] · 박지훈[1] · 김진환[1] · 김정원[2] · 이동진[1+]

한림대학교 강남성심병원 이비인후과학교실[1], 병리학교실[2]

Neck metastasis of invasive ductal carcinoma of breast causing voice change: a case report

Hyung Min Lee, MD[1], Ji hoon Park, MD[1], Jin Hwan Kim, MD, PhD[1], Jung Won Kim, MD[2], Dong Jin Lee, MD, PhD[1+]

Department of Otolaryngology-Head and Neck surgery[1], Department of Pathology[2], Kangnam Sacred Heart Hospital, Hallym University College of Medicine, Seoul, Korea

= Abstract =

We present a metastatic carcinoma from the breast to the neck soft tissue around common carotid artery, with a rare finding of voice change. A 60 year-old female patient presented with voice change for 7 months. Neck ultrasound revealed a soft tissue mass between internal jugular vein and common carotid artery. Result of fine needle aspiration biopsy was a metastatic carcinoma. Computed tomography and magnetic resonance image revealed 2.5 x 3.0 cm sized irregular marginated soft tissue mass in right lower neck encasing common carotid artery and internal jugular vein. Surgical resection was performed and pathologic result with immunohistochemical analysis confirmed the diagnosis of a metastatic invasive ductal carcinoma originated from breast.

Key Words : breast cancer, neck metastasis, voice change, invasive ductal carcinoma

Introduction

Breast cancer is the most frequent cancer in women worldwide and the second most common cause of cancer death after lung cancer among women in the developed countries.[1)] Breast cancer frequently relapse at distant sites such as bone, lung, pleura, brain and liver.[2)] Head and neck metastasis is not uncommon and most common soft tissue location for metastasis in head and neck is oral cavity and tongue.[3,4)] Here, we present a metastatic tumor from breast to neck soft tissue around common carotid artery, with rare finding of vagus nerve invasion and voice change.

Received : September 19, 2017
Revised : October 12, 2017
Accepted : October 15, 2017
+Corresponding author: Dong Jin Lee, M.D., Ph.D.
Present/Permanent address, 1 Singil-ro Yeongdeungpo-gu, Seoul 150-950, Republic of Korea
Tel: +82-2-829-5217 Fax: +82-2-842-5217
E-mail address: leesurgery@gmail.com

Case report

A 60-year-old female patient, with a history of a breast cancer surgery sixteen years ago, came to the Department of Otolayngology-Head and neck surgery with complains of voice change. Endoscopic examination revealed right vocal cord palsy (Fig. 1). To evaluate the cause of right recurrent laryngeal nerve or vagus nerve, neck ultrasound was performed. In ultrasound examination, both thyroids were intact but there was an irregular mass encasing right common carotid artery and collapsing right internal jugular vein (Fig. 2). Fine needle aspiration biopsy was done for the soft tissue mass and pathologic report was metastatic carcinoma. Computed tomography(CT) and magnetic resonance im-

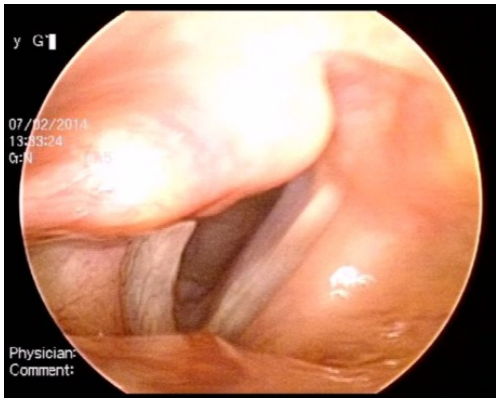

Fig. 1. Endoscopic examination of vocal cords revealed right vocal cord palsy without any tumorous condition.

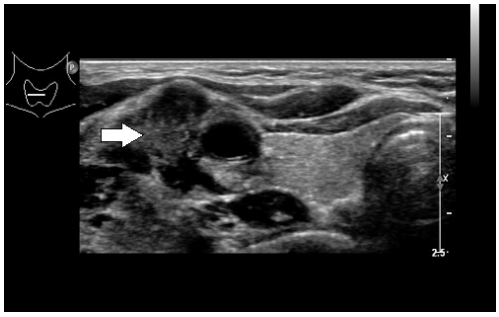

Fig. 2. Neck ultrasound revealed irregular marginated soft tissue mass encasing common carotid artery and collapsing internal jugular vein of right neck (white arrow).

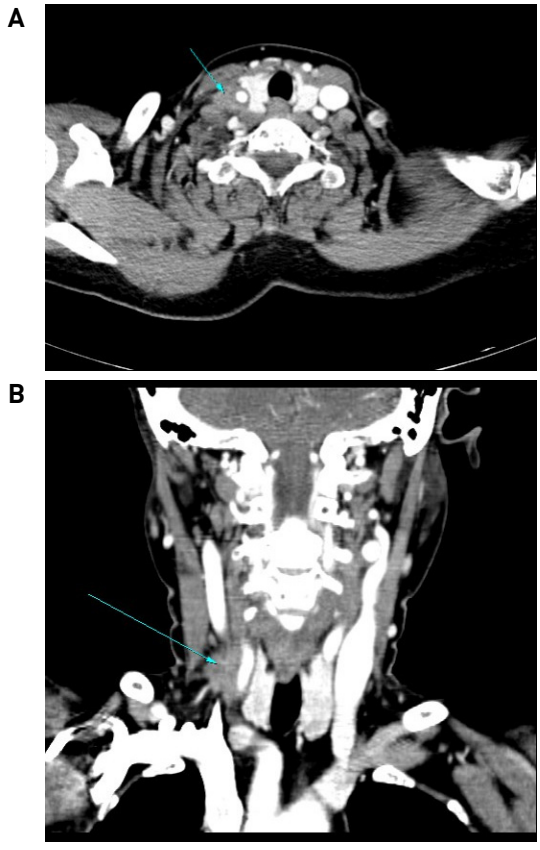

Fig. 3A and 3B. Neck CT revealed about 1.5x2.5x3.0 cm sized irregular marginated soft tissue mass in right lower neck encasing common carotid artery and internal jugular vein (blue arrow)

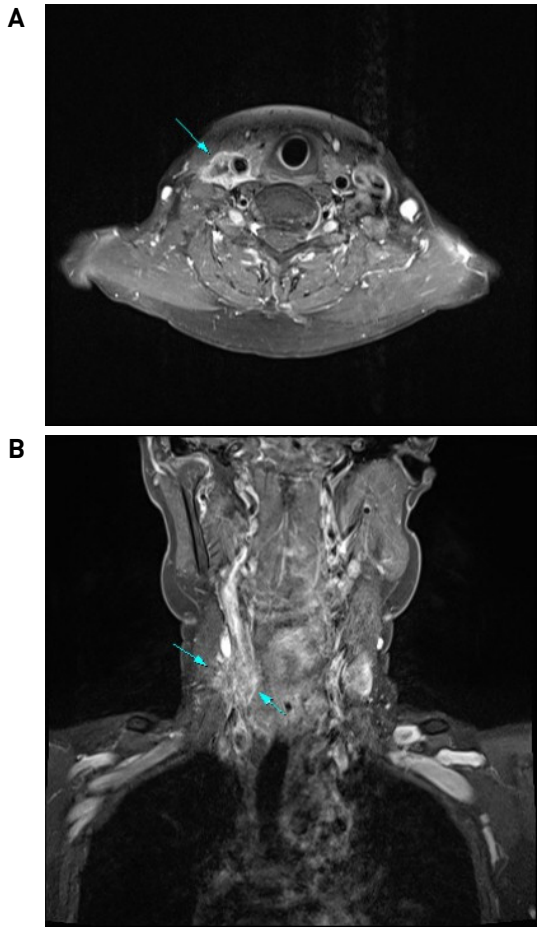

Fig. 4A and 4B. The mass showed heterogenous signal and decreased diffusion in MRI (blue arrow)

age(MRI) were performed and the finding was about 1.5x 2.5x3.0 cm sized irregular marginated soft tissue mass in right lower neck encasing common carotid artery and internal jugular vein(Fig. 3A and 3B). The mass showed heterogenous signal and decreased diffusion in MRI (Fig. 4A and 4B). With these findings, initial impression was soft tissue malignant tumor arising from carotid body or sympathetic trunk. Metastatic cancer originating from other primary sites were excluded. With this impression, excisional biopsy of soft tissue mass was performed. In operative field, as shown in CT and MRI, soft tissue mass encasing common carotid artery and collapsing internal jugular vein was found (Fig. 5). With frozen biopsy, mass was successfully dissected from common carotid artery, but internal jugular vein and vagus nerve were sacrificed due to tumor invasion. Final pathologic report revealed metastatic invasive ductal carcinoma from breast. Microscopically, the tumor consisted of solid nests or cords of neoplastic cells (Fig. 6A and 6B, x200 and x100, respectively, H&E) and tubular formation

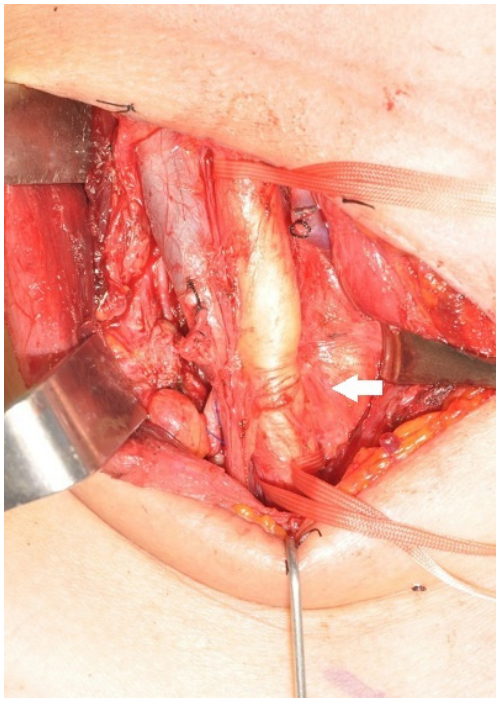

Fig. 5. Operative finding showed soft tissue mass encasing common carotid artery and collapsing internal jugular vein of right neck (white arrow)

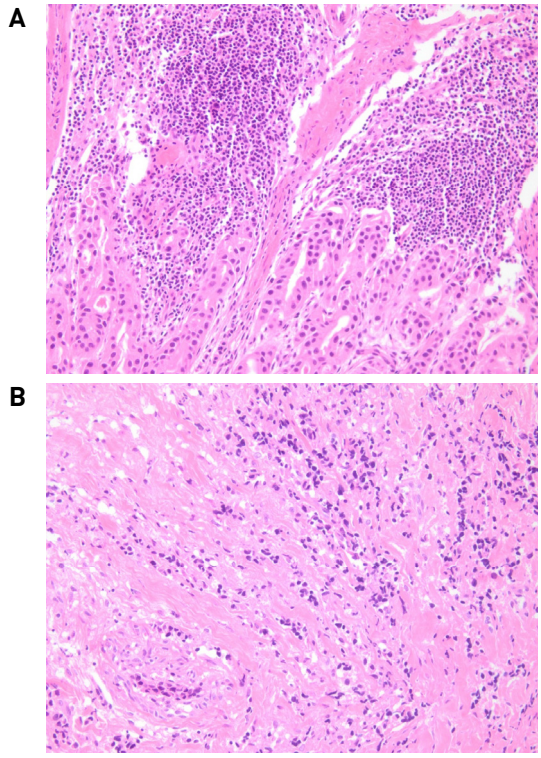

Fig. 6A and 6B. Metastatic invasive breast ductal carcinoma mainly consisted of solid nests or trabecular of neoplastic cells, x40(Fig. 6a) and x200(Fig. 6b)

was focally noted (Fig. 6A). On immunohistochemical stain, the infiltrating tumor cells were strongly and diffusely positive for estrogen receptor, supporting the diagnosis of meta-

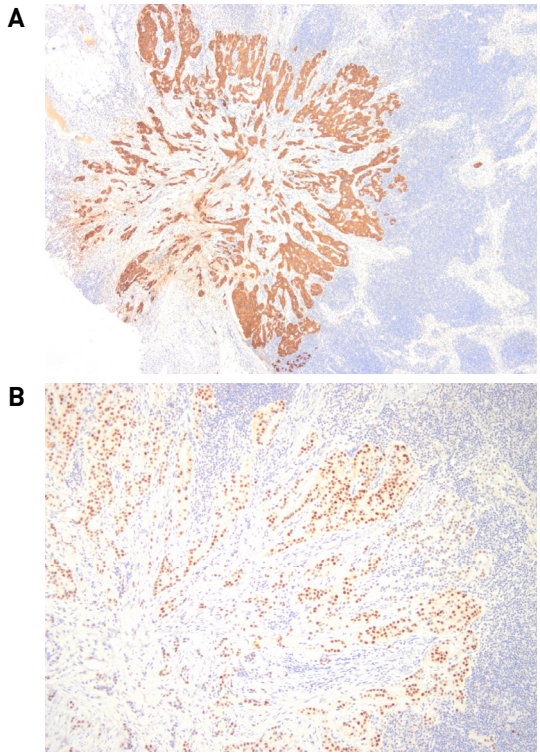

Fig. 7A and 7B. Metastatic breast ductal carcinoma showing nuclear reactivity with anti-estrogen receptor, x200(Fig. 7a) and x400 (Fig. 7b)

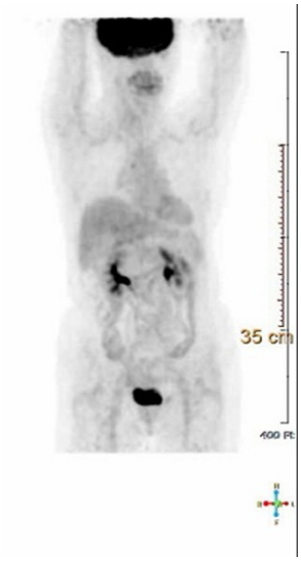

Fig. 8. PET-CT scan after 3 years follow-up showed no recurrence or newly developed tumor

static breast carcinoma (Fig.7A and 7B, x40 and x100, respectively). The patient was referred to the tumor board where further management with combined radiotherapy and hormonal therapy was decided. Three years after completion of chemo-radiation, the patient followed-up outpatient clinic with negative evidence of disease (NED) state (Fig. 8).

Discussion

Voice change as a presenting symptom of metastatic breast cancer is extremely rare and there has been no reported cases in the literature. In this case, neck metastasis of breast invasive ductal carcinoma invaded vagus nerve and caused vocal cord palsy with voice change.

Breast carcinoma is the most common cancer in women and the main cause of cancer-related death. Metastasis of these malignant tumors is common and main cause of cancer-related modality in the female population. Metastasis of the breast carcinoma to head and neck is not uncommon. Especially, the supraclavicular area of the neck is the most common nodal metastasis site for breast cancer metastasis.[5] Palpable neck mass is most common symptom of neck metastasis. Unilateral vocal cord palsy might be the result of many disease including thyroid malignancy, laryngeal cancer, lung cancer and intracranial lesion. For this reason, neck ultrasound or CT and MRI examination for evaluation of recurrent laryngeal nerve and vagus nerve is absolutely needed for vocal cord palsy patients. In this case, neck ultrasound and fine needle aspiration biopsy revealed neck metastasis of breast invasive ductal carcinoma.

Late onset metastasis of breast carcinoma is rare after several years of disease-free survival.[6,7] Furthermore, this situation is more associated with better prognosis than early recurrence of disease. In this patient the late metastasis was found at an unusual location (at level III, encasing common carotid artery and collapsing internal jugular vein) with atypical clinical presentation (voice change). A late recurrence of carcinoma may result from cancer cells waiting in a prolonged G0 state (dormant cancer cells); this situation has been known for many types of cancer.[8] The stimulus required to start the regrowth of dormant cells is unknown. However, this situation may be associated with immune deficiency or any other immunological disorder, local tissue injury, and as yet unknown reasons.

Here, we present a metastatic tumor from breast to neck soft tissue around common carotid artery, with rare finding of vagus nerve invasion and voice change. After surgical resection and postoperative radiation and hormonal therapy, patient has visited outpatient clinic with NED state for 3 years.

중심 단어 : 유방암, 경부전이, 음성변화

References

1) Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM. *Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. Int J Cancer. 2010;127:2893-2917.*
2) Cheng YC, Ueno NT. *Improvement of survival and prospect of cure in patients with metastatic breast cancer. Breast Cancer. 2012;19:191-199.*
3) Hirshberg A, Leibovich P, Buchner A. *Metastases to the oral mucosa: analysis of 157 cases. J Oral Pathol Med. 1993;22:385-390.*
4) Baden E, Duvillard P, Micheau C. *Metastatic papillary endometrial carcinoma of the tongue. Case report and review of the literature. Arch Pathol Lab Med. 1992;116:965-968.*
5) Sesterhenn AM, Albert US, Barth PJ, Wagner U, Werner JA. *The status of neck node metastases in breast cancer--loco-regional or distant? Breast. 2006;15:181-186.*
6) Mamby CC, Love RR, Heaney E. *Metastatic breast cancer 39 years after primary treatment. Wis Med J. 1993;92:567-569.*
7) Dal Lago D, Villa G, Miguoli R, Annoni G, Vergani C. *An unusual case of breast cancer relapse after 30 years of disease-free survival. Age Ageing. 1998;27:649-650.*
8) Goss PE, Chambers AF. *Does tumour dormancy offer a therapeutic target? Nat Rev Cancer. 2010;10:871-877.*