Breast cancer is the most common cancer among women worldwide. While the most common metastasis sites for breast cancer are bones, liver, lung and brain [1], the metastasis to parotid gland is extremely rare. Here we describe an unusual case of a patient, who presented with an isolated contralateral parotid lymph node metastasis from breast origin.

A 33-year-old mother, without any family history of breast cancer, was diagnosed with left breast tumor by breast ultrasound (Figure 1) and admitted to breast surgery in 2015. The patient was offered modified radical mastectomy and axillary lymph node dissection on November 17, 2015 (Figure 2), being classified as luminal B breast cancer IIA stage (pT2N0M0) according to the TNM classification of AJCC in 2009. Then the patient was given 7 cycles of adjuvant chemotherapy at the department of surgery from December 15, 2015 to June 15, 2016. This patient did not receive subsequent radiation therapy or hormonal therapy for unknown reasons. And, she had the tumor recurrence on the chest wall and thus was admitted to breast surgery on September 22, 2017. Then she was offered palliative surgery (Figure 3).

After the palliative surgery, the patient was transferred to our department for further treatment.

**Figure 1:** 1A) Ultrasound guided puncture of the left breast was performed to obtain 3 complete tissues on November 13, 2015. 1B) Biopsy pathological results, (the left breast) malignant tumor with poorly differentiation.

**Figure 2:** The post operative results: (the left) breast infiltrating ductal carcinoma, non-special type (grade II). The tumor size was about 4.0 cm × 3.0 cm. Lymphatic and Blood Vessel tumoral Invasion (LBVI) were found at the basal cutting edge. There was no cancer invasion in the 23 lymph nodes dissected. The immunohistochemical examination results: ER(+80%), PR(+50%), CerbB-2(1+), Ki-67(+50%), CK14(-), E-cadherin(+), P120(membrane+), P53(portion+), EGFR(-), CD31(+), PS-2(portion+), CK5/6(-), EMA(portion+), P63(-).
Figure 3A: The ultrasound of left axilla. Two heterogeneous hypo echoic nodules were seen in the axilla. With abundant blood flow inside. The maximal diameter was about 3.0 cm.

Figure 3B: Surgical pathologic results the mass of the left side of the chest wall was infiltration with cancer cell in the fat and connective tissues with lymphatic tissue necrosis around it in some regions, which be considered as metastasis from the mammary glands cancer.

Figure 4A: The ultrasound of the cervical mass. A hypo echoic nodule was seen in the right parotid gland, with clear lineament but unclear border between context and medulla. The maximal diameter was about 2.0 cm.

Figure 4B: The neck MR and CT images showed isolated enlarged lymph nodes in the right parotid gland. Ultrasound guided biopsy of parotid gland lymph nodes. The pathological results showed that the fibrous connective tissue was infiltrated by cancer cell with poorly differentiation be considering the source from breast.

GCDFP-15(-), ER(+90%), PR(+20%), PUI20(membrane+), CEA(weak+), CK(-), CerbB-2(0).

for the first time. She had no distant metastasis at that time and received intensity modulated radiation therapy, with the prescribed dosage of 60 Gy/30F for P-GTV and 50 Gy/25F for PTV. The targeted sites included the chest wall and supra/infra-clavicular nodal region. However, the patient refused to undergo subsequent chemotherapy and came back on February 26, 2018 because of an enlarged lymph node in her right upper neck with a diameter of 2 cm. Further examination identified the swollen lymph node as a tumor metastasis from contralateral breast origin (Figure 4). Therefore, 4 cycles of TP regimen and subsequent radiation therapy were given to target this isolated metastasis. In accordance with standard protocol, the patient is currently undergoing hormonal therapy (Letrozole plus Goserlin).

Confucius once said, “Things in the past are beyond redemption, but we can consummate what is in the future”. While we admit the limitations of case reports, the low incidence rate and the importance of standardized treatment for initial patients with breast cancer are relevant and valuable in clinical practice.

Reference