Brachial plexopathy due to breast cancer metastases

Sir,

Brachial plexopathy is a rare condition, which is a significant cause of pain and disability in breast cancer patients, with an incidence of less than 0.5%.\(^1\) Here, we present two breast cancer patients having brachial plexopathy symptoms due to the malignant infiltration of the tumor.

A 43-year-old woman complained of pain and progressive weakness in her right upper limb for three months. Her history included breast cancer five years earlier, which was treated with modified radical mastectomy (surgery) and chemotherapy. Electromyography study (EMG) findings showed medial trunchus lesion of the right brachial plexus. Brachial plexus MRI revealed thickening of the distal fibers of the brachial plexus compared with the contralateral side, reflecting metastases of breast cancer [Figure 1]. After consultation with the Oncology Department, Radiotherapy (RT) was applied (3900 cGy) to the right...
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Figure 1: T1-weighted oblique coronal image demonstrating the thickening of the brachial plexus at the site of thoracic outlet

brachial plexus and auxiliary region. At two-month follow-up she had full recovery.

A 48-year-old woman complained of pain and burning sensation in her left upper extremity. Her history included breast cancer 8 years earlier, which was treated with modified radical mastectomy (surgery) and chemotherapy. Electromyographic examination of left upper extremity revealed brachial panplexopathy. MRI of left brachial plexus revealed the thickening of the plexus at the side of thoracic outlet [Figures 2, 3]. A radiation oncologist consulted the patient and 3000 cGy dose RT was applied to left axillary region. The pain subsided but neurological deficit only partially improved.

In patients with breast carcinoma who have brachial plexopathy symptoms, radiation injury or metastatic spread of the tumor should be considered. There are few case reports in the literature. About 95% of these patients have shoulder and arm pain with a dermatome distribution.[1] Both of our patients had intractable pain in the right upper limb. In the second patient, EMG showed panplexopathy, which is seen in 25% of the patients.[4] Neither of our patients had had previous radiation therapy, thus radiation-induced brachial plexopathy was excluded clinically. As the patients had surgery 5 and 8 years before, complication due to surgery was not considered. MRI of the brachial plexopathy was also examined and confirmed the metastatic plexopathy in our patients to make the differential diagnosis. The recovery of the patients after radiation therapy confirmed our metastasis diagnosis.

Patients with pain and weakness in the upper extremity commonly admit to physiatrists, so we must be alert to the patients with a history of breast cancer in the differential diagnosis of brachial plexopathy.

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References


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Figure 2: T1-weighted oblique coronal image demonstrating the thickening of the left brachial plexus, which was invaded with metastasis lesion at the site of thoracic outlet involving subclavian vein and artery

Figure 3: After the administration of gadolinium, the thickening of the brachial plexus with the increased uptake of the contrast material is shown