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Case Report

A Rare Case of Anterior Chest Wall Schwannoma Masquerading as a Breast Tumor

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A schwannoma is a tumor that develops on peripheral nerves or spinal roots. Although any part of the body can be affected, the breast is a quite unusual site for schwannomas. We report herein a case of schwannoma presenting as a breast tumor. In the current case, the tumor showed both clinically and mammographically as a well-defined breast mass. Of interest, sonographically, the well-defined mass appeared to be located in subcutaneous tissue, not in breast parenchyma, and this finding was confirmed histopathologically. These findings indicate the possibility that a schwannoma arising from subcutaneous breast tissue can show exophytic growth to the breast and appear as a breast tumor. In other words, our case implies the possible presence of a "pseudo" breast schwannoma.

Key words: Schwannoma – Breast – Breast cancer

A schwannoma is a relatively rare neoplasm that occurs from Schwann cells of the peripheral nerve sheath.[1–3] Although schwannomas may occur in any organ, a breast schwannoma is extremely rare and accounts only 2.6% of schwannomas.[1–4] We report herein a case of schwannoma suspected to be a breast tumor. The concern with breast schwannoma is a differential diagnosis, since on mammogram it sometimes resembles a breast cancer or tumor.

Case Report

A 61-year-old Japanese woman was found to have a 0.5-cm palpable tumor in the left upper external breast quadrant. The mass was elastically firm and mobile, with slight pain but without skin findings. She had noticed the mass 2 years prior and presented for screening mammogram, which showed a 5-mm well-defined mass in the left breast. The mass had recently increased in size. Mammography revealed a well-defined, oval-shaped, and equally dense nodule without microcalcification, and the mass had increased in size (Fig. 1). Sonography revealed an oval, well-demarcated, hypoechoic solid mass at the left upper external breast quadrant in subcutaneous tissue abutting the skin (Fig. 2). Color Doppler sonography showed parietal vascularization. There was no evidence of

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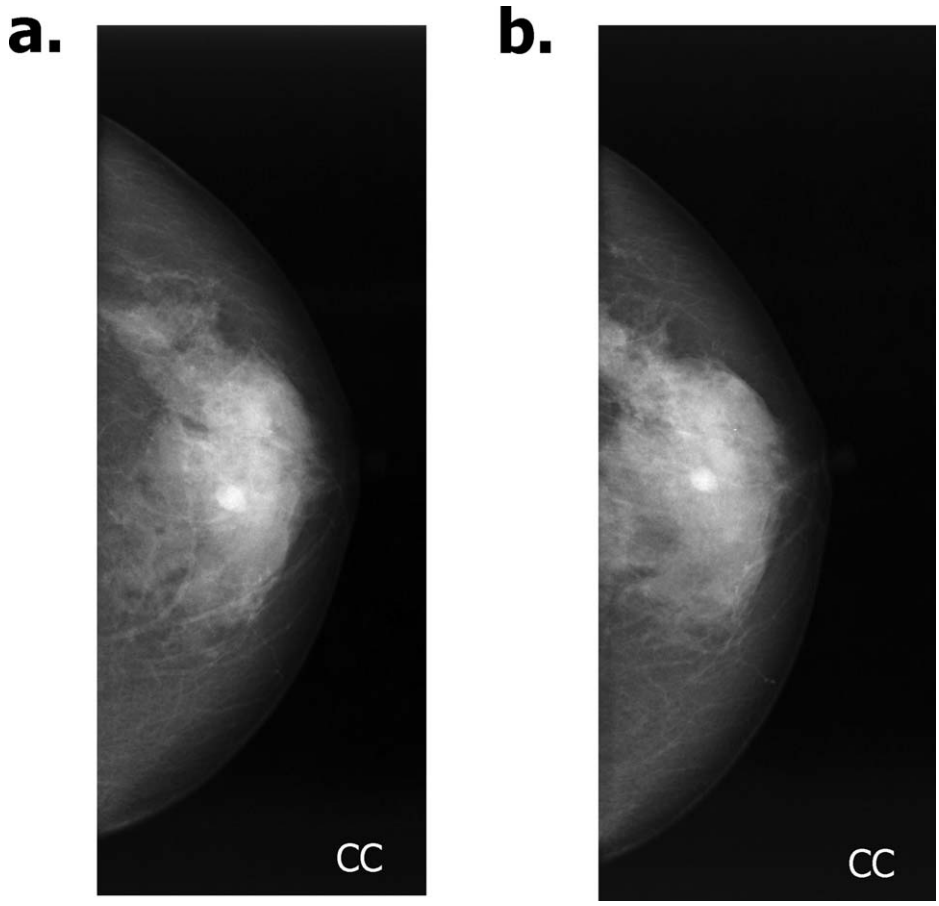

Fig. 1 (a) Mammography (craniocaudal/CC) revealed a well-defined, oval-shaped, and equally dense nodule without microcalcification, and the mass was increased in size. (b) The mass as seen on the previous year's mammogram.

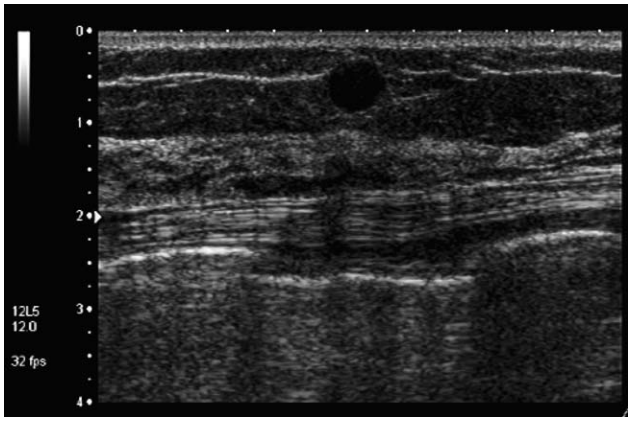

Fig. 2 Sonography revealed an oval-shaped, well-demarcated, hypoechoic solid mass at the left upper external breast quadrant in subcutaneous tissue abutting the skin.

axillary lymphadenopathy. The patient did not present with any features of von Recklinghausen's disease such as numerous subcutaneous tumors or café-au-lait spots, and she had no family history of the disease. Cytologic examination of a fine- needle aspiration biopsy specimen was inconclusive. An excisional biopsy was therefore performed using local anesthesia, and a well-encapsulated mass was removed.

The histologic evaluation revealed an encapsulated mass composed of spindle-shaped cells with pointed basophilic nuclei and with nuclear palisading arranged in interlacing bundles known as Verocay bodies, corresponding to Antoni A pattern (Fig. 3). Adjacent normal breast parenchyma was not visualized in the specimen. Neither malignancy of the proliferative cells nor invasion was observed. These findings were compatible with schwannoma. Our follow-up of the patient has remained uneventful.

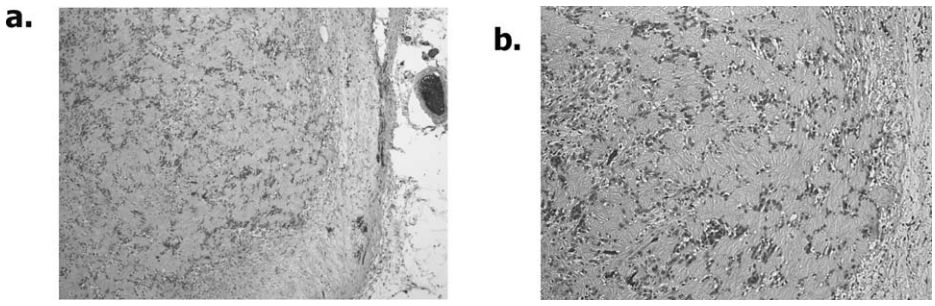

Fig. 3 The histologic evaluation revealed (a) an encapsulated mass composed of spindle-shaped cells with pointed basophilic nuclei (H&E; ×100) and (b) with nuclear palisading arranged in interlacing bundles known as Verocay bodies, corresponding to Antoni A pattern (H&E; ×200).

Discussion

A schwannoma is a tumor that develops on peripheral nerves or spinal roots.[1] The most common locations are the neck, the head, extensor surfaces of the extremities, the posterior mediastinum, and the stomach[2–4]; the breast is a quite unusual site for schwannomas.[1–8] However, any part of the body can be affected by schwannomas. The key observations of our case are summarized as follows: (1) the patient had a breast nodule, and the lesion revealed a well-defined nodule by mammography; (2) the tumor detected as a breast tumor was shown as a subcutaneous tumor sonographically and was diagnosed as a schwannoma by histologic examination. These findings indicated the possibility that a schwannoma arising from subcutaneous breast tissue can show exophytic growth to the breast, which appears as a tumor of breast parenchyma. The mammographic and sonographic findings of a previous case report of breast schwannoma resemble those of our case.[3] In other word, our case implies the presence of "pseudo" breast schwannoma.

Because of its relatively rare presentation, there have been few reports of the mammographic and sonographic findings of breast schwannomas.[2] According to previous reports, a schwannoma is a slow-growing tumor, usually solitary, and it can appear as a breast nodule having clinical and radiologic characteristics suggestive of a benign tumor.[2–6] Mammographically, schwannomas are commonly described as nonspecific, well-defined, round or oval densities, as seen in our case.

Sonographically, a schwannoma is usually a well-defined, solid, hypoechoic mass, and it generally shows moderate to marked posterior enhancement. However, mammographically and sonographically, variation in appearance has been reported; it has also been reported that a schwannoma appears as an ill-defined mass in some cases.[7,8] It is therefore difficult to distinguish schwannomas from other benign and malignant tumors by means of mammography and sonography. Clinically, schwannoma of the breast may be mistaken for fibroadenoma or well-limited carcinoma. In our case, the tumor showed mammographically as a well-defined breast mass, but sonographically, the well-defined mass was located in subcutaneous tissue, not in breast parenchyma, which was confirmed histopathologically. In our case, sonography was found to be useful for the differential diagnosis. The diagnosis of breast schwannoma is histologic, and its treatment is surgical. It is considered that a complete removal of the tumor not only helps in making a definitive diagnosis but also in treatment.

In conclusion, we report herein a case of a schwannoma mimicking a breast tumor, which suggests the possible existence of "pseudo" breast schwannoma. Schwannomas within breast parenchyma are quite rare, and the current case indicates that some breast schwannomas may grow exophytically from subcutaneous tissue into breast parenchyma.

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