

Schwannoma of the Chest Wall Mimicking a Breast Mass on Sonography

Hoi Soo Yoon, M.D.¹, Hak Hee Kim, M.D.²

¹Department of Radiology, Hallym University Sacred Heart Hospital, Hallym University College of Medicine

²Department of Radiology and Research Institute of Radiology, University of Ulsan
College of Medicine, Asan Medical Center

Schwannoma or neurilemmoma of anterior chest wall is exceedingly rare. We describe a very rare case of schwannoma of the anterior chest wall, which was mimicking a breast mass. A 52-year-old woman presented with an incidentally found mass on breast sonography. On sonography, the precise location of mass was not determined. Breast MRI revealed that this mass was located in anterior chest wall. Surgical excision revealed benign schwannoma.

Index words: Schwannoma, Neurilemmoma
Breast, Ultrasound
Breast, MRI

INTRODUCTION

Schwannoma or neurilemmoma is primary nerve sheath tumors that usually arise from a peripheral nerve. Associated with the course of larger nerve trunk, schwannoma are found more commonly in the head, intracranial cavity, neck and extremities. Neurogenic tumors of the lateral and anterior chest wall are exceedingly rare (1). We report a rare case of schwannoma of the anterior chest wall which mimics a breast mass on US.

Case Report

A 52-year-old woman presented with an incidentally found mass on breast ultrasonography. There were no

symptom and no family history of breast cancer. Mammography showed no definite abnormal lesion in the both breasts. Breast ultrasonography showed a well-defined, oval and hypoechoic mass located in deep portion of right breast parenchyma and anterior aspect of the chest wall (Fig. 1). The precise location whether it is inside or outside of the breast parenchyma was not definite on sonography. However, a thin hypoechoic linear structure, probable retromammary fat, was located at anterior aspect of the mass. This finding was suggestive of extramammary lesion, not mammary lesion. For further evaluation of the mass including precise location, bilateral dynamic breast MRI was performed. A low signal intensity mass was located between high signal retromammary fat and anterior chest wall on axial T1 weighted images (Fig. 2A). Digital subtraction image after contrast enhancement revealed homogeneous and well enhancement (Fig. 2B). There was no evidence of necrosis within the mass. Time-signal intensity curve showed type 1 progressive enhancement pattern (Fig. 2C).

Corresponding to: Hak Hee Kim, M.D., Department of Radiology and Research Institute of Radiology, University of Ulsan College of Medicine, Asan Medical Center, 388-1 Poongnap 2 dong, Songpa-gu, Seoul, Korea.
Tel. 82-2-3010-4390, Fax. 82-2-476-0090, E-mail: hhkim@amc.seoul.kr

Surgical excision was done and pathologic examination revealed a benign schwannoma.

Discussion

Schwannoma, also known as neurinoma and neurilemmoma is a benign, slow growing neoplasm originating in any nerve that has a schwann cell sheath (2).

Schwannoma is a relatively rare solitary tumor, espe-

cially on anterior chest wall. In a study of Davidson et al., of 55 intrathoracic neural tumors only 3 are located outside of posterior mediastinum (1). In about 30% schwannoma undergo malignant transformation.

Schwannomas occur at all age, being more common between 20 and 50, and they affect the sexes in roughly equal numbers. They are usually asymptomatic and noted incidentally (3).

Microscopically, two patterns are consistent in schwannoma: a hypercellular component (Antoni type-A tissue) and a loose, myxoid component (Antoni type-B tissue). Correlation of the signal intensity on T2-weighted images with microscopic findings suggested that the signal intensity of the non-cystic area of the tumor may be related to a predominance of one of the two microscopic components. The relatively low signal intensity was caused by a predominance of hypercellular Antoni type-A tissue and the relatively high signal intensity was caused by a predominance of hypocellular Antoni type ?B tissue. On Gd-DTPA enhanced T1 ?weighted images, the solid part of the tumor has strong and homogenous enhancements (4). The multiplanar capability and high resolution of MRI enable the precise determination of the location and extent (5).

In conclusion, when you encountered a mass located

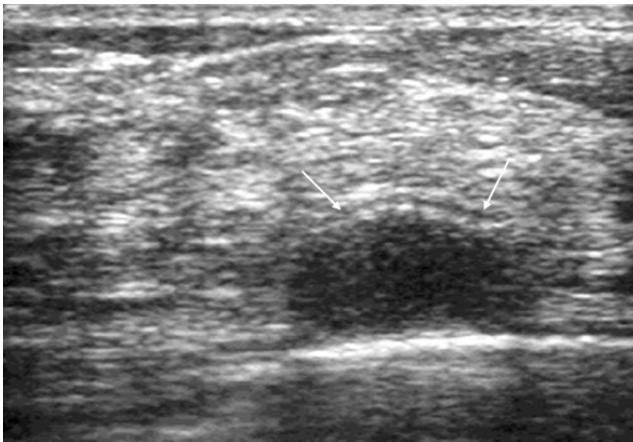
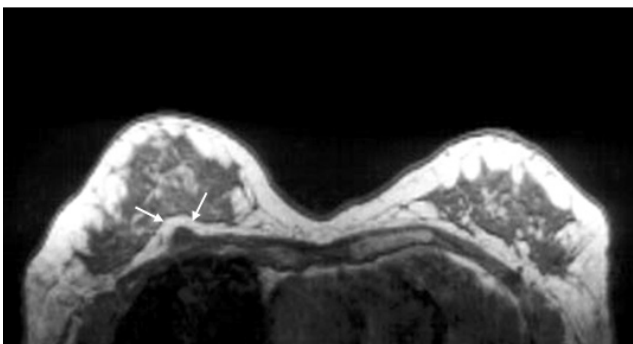
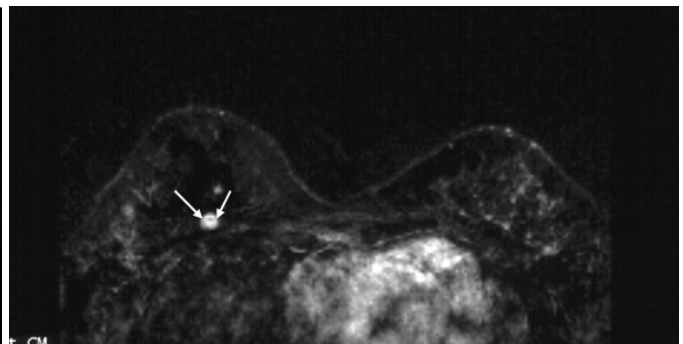


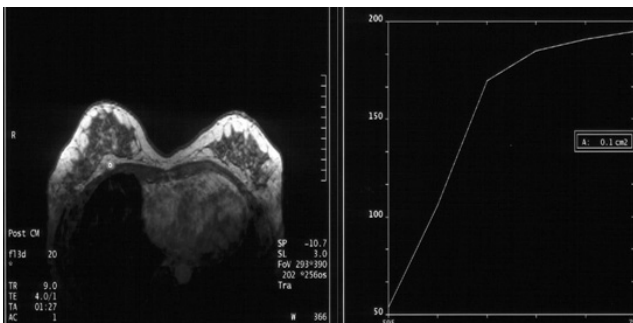
Fig. 1. A 52-year-old woman with schwannoma on anterior chest wall. Sonogram shows a well-defined, oval shaped, hypoechoic mass with posterior acoustic enhancement in deep portion of the right breast. A thin hypoechoic band- like structure (arrows) anterior to the mass is probable retromammary fat.



a



b



c

Fig 2. A 52-year-old woman with schwannoma on anterior chest wall. **a.** T1-weighted axial image shows a low signal intensity mass. The mass is located between retromammary fat (arrows) and pectoralis muscle. **b.** The mass shows well contrast enhancement (arrows) on digital subtraction image. **c.** Time-signal intensity curve for dynamic contrast-enhanced MR image shows type 1 curve which shows progressive enhancement.

in deep portion of breast parenchyma, you must decide this mass is located whether breast parenchyma or anterior chest wall. Meticulous sonographic examination or MRI may be helpful for evaluating precise location. When a mass is located in anterior chest wall, schwannoma should be considered in a the possible diagnosis.

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초음파에서 유방종괴와 유사하게 보인 흉벽의 슈반세포종

윤희수 · 김학희

¹한림대학교 의과대학 성심병원 영상의학과

²울산대학교 의과대학 서울아산병원 영상의학과, 영상의학연구소

슈반세포종 또는 신경집종이 전 흉벽에서 생기는 경우는 매우 드물다. 저자들은 전 흉벽에서 발생하여 유방 종괴와 유사하게 보였던 드문 신경섬유초종을 보고하는 바이다. 52세 여성이 유방초음파에서 우연히 발견된 종괴를 주소로 내원하였다. 초음파에서는 종괴의 정확한 위치가 결정되지 않았다. 유방자기공명영상에서 종괴가 전 흉벽에 위치함을 알 수 있었다. 외과적 절제를 통하여 양성 슈반세포종으로 최종 진단되었다.

Index words: Schwannoma

Neurilemmoma

Anterior chest wall mass