Two Cases of Adenolipoma of the Breast

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Adenolipoma of the breast is a rare tumor. Two cases are described here and the literature is reviewed. Case 1 was a 52-year-old woman who had a 3-cm-long elastic hard tumor in the left breast. Case 2 was a 40-year-old woman who had a 3-cm-long elastic soft tumor in the left breast. In each case, mammography revealed well demarcated soft tissue density. Ultrasonography demonstrated well defined tumors composed of echogenic and sonolucent areas. These tumors were easily enucleated at surgery. Histologically, the tumors consisted of mammary ducts, fibrous stroma and adipose tissue, findings which are characteristic of mammary adenolipoma. An adenolipoma may still be misdiagnosed as a fibroadenoma or a fibrocystic disease. Characteristic findings of mammography and ultrasonography are emphasized.

(Key Words: Breast neoplasms, Adenolipoma, Hamartoma)

INTRODUCTION
Adenolipoma of the breast is a rare tumor. Histologically, this tumor is composed of mammary glands, connective tissue and adipose tissue in variable proportions. Mammographical and ultrasonographical appearances have been described in previous reports, and they are suggestive of this disease. However, this entity is still little known, and may be misdiagnosed as a fibroadenoma or a fibrocystic disease. Two cases have been encountered at this hospital. Recently, mammography and ultrasonography have been used more frequently, so it seems appropriate to draw attention to the existence of adenolipoma.

CASE PRESENTATIONS
Case 1. A 57-year-old woman presented with a 3-cm-long movable, non-tender, elastic hard tumor in the upper outer quadrant of the left breast. Mammography demonstrated a well demarcated ovoid mass, and calcification was not present (Fig. 1). Contact B-scan ultrasonography was performed using a SSD 270 scanner (Aloka Co., Japan) with a 7.5-MHz transducer. This revealed a well defined mass (Fig. 2). The tumor was composed of echogenic areas and sonolucent areas. The posterior echo was not diminished. At surgery, a well encapsulated tumor (3 × 3 × 3 cm) was easily removed. Cut section revealed a gray-yellowish fatty mass containing fairly firm portions (Fig. 3). Histologically, the tumor consisted of mammary ducts, fibrous stroma and adipose tissue within a fibrous capsule, the findings being characteristic of mammary adenolipoma (Fig. 4).

Case 2. A 40-year-old woman presented with a 3-cm-long movable, non-tender, elastic soft tumor in the lower outer quadrant of the left breast. Mammography showed a soft tissue density (Fig. 5). Ultrasonography was performed using a SSD 270 scanner with a 7.5-MHz transducer. This revealed a well defined tumor which was surrounded by a sonolucent zone (Fig. 6). The echogenicity was non-homogenous. A well encapsulated yellowish white tumor (3 × 2.8 × 2.5) was removed surgically (Fig. 7). Histological examination revealed that the tumor was covered with a fibrous capsule which was composed of mammary ducts, fibrous stroma and adipose tissue (Fig. 8).

The two patients have been well without recurrence of disease for 6 years and 5 months, and 5 years and 2 months, respectively.

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Fig. 1 Case 1. Mediolateral mammogram showing a well-defined mass (arrows).

Fig. 2 Case 1. Ultrasonography showing the mass (arrows) with echogenic areas and sonolucent areas.
Fig. 3 Case 1. A 3-cm tumor with capsule. The cut surface revealed gray-yellowish fatty tumor.

Fig. 4 Case 1. The tumor consists of mammary ducts, fibrous stroma and adipose tissue within a fibrous capsule. (Hematoxylin-Eosin, ×150)
DISCUSSION

In 1945, Spalding (17) described 3 cases of fatty tumors of the breast. One of his cases was a well circumscribed tumor composed of mammary epithelial element, connective tissue and adipose tissue. He separated this tumor from the true lipoma, and named the lesion adenolipoma. Subsequently, adenolipoma has been described under a variety of names such as fibroadenolipoma (4, 10, 11), postlactational breast tumor (7) or hamartoma (3). In Japanese articles, the term adenolipoma has been used for fatty tumors of breast (8, 16, 18). We also used the term adenolipoma in this paper.

The term hamartoma was proposed by Arrigoni et al. (3), and has been adopted in 1981 by the World Health Organization. Histological characteristics of the hamartoma is that it contains various amounts of adipose tissue among glandular elements and connective tissue. Linell et al. (14) considered that there is a continuous variation from fibrous and glandular hamartomas to typical adenolipomas. In 1991, Jones et al. (9) studied the microscopical appearances of 17 cases of hamartomas, and observed that there were four different patterns: (a) circumscribed fibrocystic change with fat, collagen or smooth muscle, (b) fibroadenoma
Fig. 7  Case 2. A 3-cm fatty tumor with thin capsule. This tumor was easily enucleated.

Fig. 8  Case 2. The tumor consists of mammary ducts, fibrous stroma and adipose tissue. Fibrous capsule is evident. (Hematoxylin-Eosin, × 60)
with fat or cartilage, (c) fibroadenoma with lobules and (d) adenolipoma. According to this classification, our case number 1 was categorized into (a), and case number 2 into (c), respectively. The exact frequency of adenolipoma is unknown. Arrigoni et al. (3) reported 10 cases in surgically removed benign mammary tumors over a period of 30 years. Hessler et al. (6) experienced 16 cases out of 10,000 consecutive mammographies performed over 10 years. Haagensen (5) found 22 cases during a 25-year period. The tumor occurs in women with a peak occurrence in the 40–60 age group (1). We are not aware of adenolipoma in male breast.

On palpation, the tumor is usually a well-circumscribed, movable elastic soft mass, and tenderness is absent. It is most often solitary, but multiple lesions may occur (1). The lesions are variable in size, and may attain a large size. Lee and Diner (13) reported a patient who had a huge 20 × 20 × 20 cm mass. The mammographic findings are suggestive of adenolipoma. Typically, the tumor is well-defined and non-homogenous. There may be a radiolucent ring surrounding the lesion. Calcification is not usually present, but has been reported by Lee and Diner (13). It is of benign type and distinguishable from malignant tumors. The ultrasonographic appearance seems to be characteristic. The lesion is visualized as a well-defined mass. It is composed of echogenic areas and sonoluent areas. The degree of echogenicity depends on the amount of fatty tissue. Adenolipoma is usually covered by a fibrous capsule, although cases have been reported in which capsules are not evident (2, 18). The lesion can be easily enucleated at operation. Adenolipoma is most often benign, and enucleation is sufficient. However, Linell et al. (18) reported a peculiar case in which the lesion had recurved twice at the site of enucleation. Since adenolipomas contain ordinary glandular tissue, the possibility of malignant transformation is present. Such cases have been reported previously (12, 15). An adenolipoma may be easily mistaken for a fibroadenoma or a fibrocystic disease particularly when the pathologist is not aware of the clinical, mammographical, ultrasonographical and intraoperative findings, or if only fragments of the adenolipoma have been submitted. Our case 1 was one such example. This lesion was probably more common than expected in the literature.

Again, adenolipoma is still not well known, and it seems appropriate to draw attention to the existence of this tumor.

REFERENCES