

Peculiar Mammographic and Ultrasonographic Findings of a Retained Silastic Drain in the Breast

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Foreign bodies, such as surgical sponges or drains, are sometimes retained after surgical procedures.¹ Retention of a drain in the breast tissue postoperatively is an unusual complication. This report describes two cases of characteristic sonographic findings related to retained silastic drains following breast surgery.

Key Words: Breast radiography, foreign body

INTRODUCTION

Foreign bodies in the breast can be found during mammographic or ultrasonographic examinations. Almost all of these foreign bodies were silicone or paraffin which were injected into the breast tissue.² Other reported foreign materials in the breast includes suture materials, carbon particles or wire used for localization,³ bullets,⁴ broken trocar or needles,^{5,6} and remainder of a silastic drain used for draining breast abscesses due to incomplete removal.^{6,7} The retention of a drain in the breast is a rare complication following surgery. It can be found by the symptoms of foreign body reactions or asymptomatic mass or calcifications in mammography. Sometimes the findings of foreign bodies can mimic breast cancer. This article reports two rare cases of retained silastic drain in the breast after surgical procedures focusing on the mammographic and ultrasonographic findings.

CASE REPORTS

Case 1

A 44-year-old woman was admitted to our surgery department with a painful mass in the subareolar area of the left breast. The patient had undergone a surgical incision and drainage of a subareolar abscess 6 months prior (Fig. 1A). Following that procedure, she complained of occasional pain in her left breast. There was a hard and fixed mass in the left subareolar area on physical examination. Breast ultrasonography revealed an ill-defined, hypoechoic lesion with tubular-shaped parallel hyperechoic lines and a reverberation artifact, suggesting a retained drain (Fig. 1B). A craniocaudal view of mammographic images of the left breast demonstrated a high density foreign body in the left subareolar area (Fig. 1C). We confirmed the object to be a silastic drain which was then removed by surgical excision. Histopathologic findings showed a granuloma with surrounding minimal foreign body reaction.

Case 2

A 33-year-old woman complained of a palpable and painful mass in the right breast which had been present for a period of one month. The patient had no risk factors for breast cancer. She had a history of breast excision due to a fibroadenoma of the right breast approximately 8 years before. On physical examination, there was a hard and fixed mass in the right subareolar area. Breast ultrasonography demonstrated an inhomogeneous, hypoechoic lesion and multiple stepped

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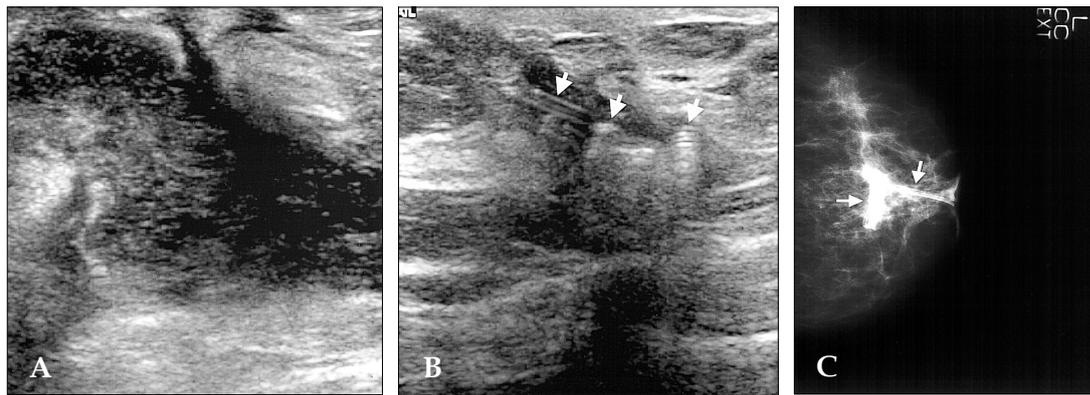


Fig. 1. A 44-year-old woman, who had received treatment for a breast abscess 6 months prior, complained of a painful mass in the subareolar area of the left breast. (A) Initial ultrasonogram of the subareolar area of the left breast shows an ill-defined, inhomogeneous, hypoechoic lesion with internal, free-floating debris, which is highly suggestive of an abscess cavity. (B) Follow-up ultrasonogram of a palpable mass after incision and drainage shows an ill-defined, hypoechoic lesion with internal echogenic parallel lines having a reverberation artifact, suggesting a foreign body (arrows). (C) Craniocaudal mammogram reveals a silastic drain in the left subareolar area (arrows).

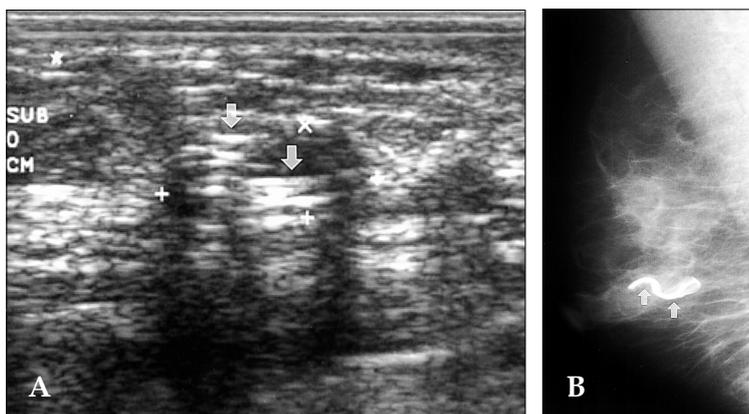


Fig. 2. A 33-year-old woman with a prior history of breast excision due to a fibroadenoma presented with a palpable mass in the right breast. (A) Breast ultrasonogram reveals multiple, linear-arranged, echogenic lesions in the right subareolar area, suggesting a foreign body (arrows). (B) Mammography (mediolateral oblique view) shows the folded tubular shape of a high density drain tube (arrows).

echogenic lines within the lesion, suggesting a foreign body (Fig. 2A). A mediolateral oblique view of mammographic images also demonstrated a folded radio-opaque drain tube (Fig. 2B), suggesting a retained drain. The presence of the silastic drain was confirmed by an excisional operation in the subareolar area of the right breast.

DISCUSSION

Foreign bodies in the breast may arise from the direct injection of silicone or paraffin into breast tissue or from leakage from implants.² Other reported foreign materials in the breast have included suture materials, carbon particles or wire used for the localization of a nonpalpable breast

lesion,³ bullets,⁴ the presence of a broken trocar or needle,^{5,6} and the incomplete removal of a silastic drain following the drainage of a breast abscess.^{6,7} Generally, drains contain a radio-opaque marker, so radiologists can easily determine the appearance of drains and catheters. Most retained foreign body cases are reported following abdominal surgical procedures. The retention of a drain as a foreign body in the breast following surgery is a rare complication. It has been reported that on mammography, foreign body reactions can appear as calcifications or a mass, which simulates malignancy due to its partially circumscribed or ill-defined margins.²

In many situations, the use of a drain (Penrose or suction drain) is necessary in breast surgeries (e.g., biopsies, lumpectomies, mastectomies and

abscess drainage). When the drain is used, it is usually removed 2-3 days after the surgery. If the procedure is performed inappropriately, especially when postoperative care of the wound is not performed by the surgeon, the drain may be placed into the surgical cavity. Physicians do not always consider breast nodules close to the site of previous surgery as a foreign body, and there is no typical finding to suggest a foreign body on physical examination. In our cases, the patients complained of painful masses at previous operation sites, as the retained drains and surrounding foreign body reactions were causes of pain and lumps. On ultrasonography, there was an ill-defined, hypoechoic lesion with internal hyperechogenicity having a reverberation artifact, suggesting a retained drain. Subsequent mammographic studies allowed us to confirm the presence of a retained drain, due to the striking features of the metallic-lined foreign body.

In conclusion, the possibility of a retained drain should be considered in patients who have a previous surgical history and complain of a painful

mass at the operation site. Ultrasonography and mammography can show striking features of a retained drain in the breast.

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