Surgical Treatment of Pseudoaneurysm of the Breast
J H McClenathan

Citation

Abstract
Formation of a pseudoaneurysm is occasionally caused by a core biopsy procedure on the breast. Most of these pseudoaneurysms are treated by radiologists and are reported in radiology journals. Herein, we report the surgical management of one of these vascular lesions.

Core biopsy with or without radiographic guidance has replaced open biopsy for most breast lesions. This technique accurately establishes the diagnosis in most patients and is usually accomplished without complication. One complication which has been reported is the formation of a pseudoaneurysm resulting from injury to a vessel during the procedure. In this article, we report the surgical management of a pseudoaneurysm which resulted from a core biopsy of the breast.

CASE REPORT
A 57-year-old woman was evaluated for pain in her right breast. She had previously had a lumpectomy and radiotherapy for infiltrating carcinoma several years earlier. Her most recent mammogram showed a well circumscribed and round density in the same breast. Because of concern for recurrent cancer, a 14 gauge core needle biopsy was done. There was significant bleeding after the biopsy which was controlled by compression. Despite the compression, the patient developed a large hematoma around the biopsy site which resolved over the next month.

She later experienced unrelenting pain near her biopsy site and was referred for surgical evaluation. Her examination then was normal. A follow-up Doppler ultrasound, however, revealed a pulsatile pseudoaneurysm near her previous biopsy site (Figure 1a, b).

The patient insisted on a surgical approach to remove and treat the pseudoaneurysm. An ultrasound-guided wire-
localized biopsy was done. Pathology revealed an 8-mm pseudoaneurysm and an adjacent normal lymph node. Her pain resolved after the biopsy.

**DISCUSSION**

Including our own patient, we have identified 19 patients with pseudoaneurysms of the breast during the past 20 years. (Table 1) Most of these have resulted from ultrasounds-guided or stereotactic breast core biopsy.

Table 1

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Biopsy Technique</th>
<th>Bleeding</th>
<th>Hematoma</th>
<th>Delay</th>
<th>Diagnosis</th>
<th>Definitive Rx</th>
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<td>Smith</td>
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<td>9 mm</td>
<td>MAM/US</td>
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During the past 20 years, the paradigm for evaluating breast lesions has evolved from surgical biopsy to ultrasound-guided or stereotactic core biopsy techniques. Most of these biopsies are performed by radiologists rather than surgeons. While these procedures are usually without complication, bleeding and hematoma formation have been reported and injury to vessels can occasionally lead to formation of a pseudoaneurysm. These pseudoaneurysms may also result from blunt trauma.12,13 Core biopsy results ranged from fibroadenoma to carcinoma and to benign lymph node.

Of the patients who had a pseudoaneurysm form after a core biopsy, at least ten patients had bleeding reported during the procedure.3,4,6,7,10,11,14,15,16 Hematoma formation was also reported in eight patients.1,2,3,8,9,10,14 Formation of a pseudoaneurysm was recognized immediately in a couple of patients, but in others, the diagnosis was not made for weeks to months.

The diagnosis of a pseudoaneurysm was usually made with ultrasound, sometimes supplemented with Doppler color ultrasound. In most patients, initial treatment was attempted by the radiology team. Compression techniques were used in at least seven patients but were successful in only two.1,4,6,7,8,9,16 In two patients, the aneurysm thrombosed spontaneously.11,13 Percutaneous embolization and coil placement were used twice.3,7 Surgical treatment was used for four patients including our own.4,9,10 Since our patient had a non-palpable lesion, wire-localization was used and a limited surgical procedure removed the lymph node and the aneurysm.

**CONCLUSION**

The increasing use of core biopsy for breast lesions will occasionally cause formation of a pseudoaneurysm. Most of these vascular lesions are treated by radiologic intervention. When those techniques fail, or when the patient requests, a surgical approach can be used.

**References**


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