Core Needle Breast Biopsy Case Report and Literature Review: A Case of Iatrogenic Pseudoaneurysm in Breast Lesion Biopsy

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Abstract

Core needle biopsy is being used for the diagnosis of breast masses and it is part of triple breast screening program in the UK. Generally, the most frequently encountered complication is hematoma. However, iatrogenic pseudoaneurysm is considered to be a potential but a rare complication. In this paper, we report a case of pseudoaneurysm occurring after a core needle biopsy in a breast lesion, part of the triple breast screening. A 51-year-old woman with no relevant medical history recalled from the breast screening program for a distortion in the upper outer quadrant of the right breast. The lesion was an X-5, P-1, U-5 with normal axilla and histologically grade 2 type Ca ER+ (Q=8 HER2-). The surgical management after the MDT meeting was a wire ultrasound guided wide local excision and sentinel lymph-node biopsy. On the day of surgery, the ultrasound scan -prior to wire guided localization procedure demonstrated findings suggestive of a pseudoaneurysm within the lesion and the wire was not placed. The conservative breast procedure was performed and the pseudoaneurysm was completely excised along with the mass while its feeding artery was identified and clipped safely. Furthermore, this paper revises most of the documented cases in the literature of iatrogenic pseudoaneurysm following a biopsy of breast lesion. Overall, this case highlights the importance of careful evaluation of needle trajectory route to avoid arterial puncture in the way between the skin and lesion.

Case Presentation

Core needle biopsy is being used for the diagnosis of breast masses. The most frequently encountered complication is hematoma. Iatrogenic pseudoaneurysm is a rare complication. We report a case of pseudoaneurysm occurring after a core needle biopsy. A 51-year-old woman with no relevant medical history recalled from the breast screening program for a distortion in the upper outer quadrant of the right breast. Further evaluation with sonography showed a malignant lesion measuring 10 mm × 10 mm and on mammography 26 mm × 15 mm. (X-5, P-1, U-5) with normal axilla. Patient underwent a guided needle core biopsy of 6 samples with a 12-gauge needle under ultrasound guidance confirming grade 2 type Ca ER+ (Q=8 HER2-). Concordant to the histology, an ultrasound wire guided wide local excision of the lesion with sentinel lymph node biopsy was planned 6 days after the CNB [1]. The patient reported no significant complications during CNB but a sudden sharp pain episode after 48 h of the procedure that was resolved with a single dose paracetamol and ibuprofen. On the day of surgery, the ultrasound scan-prior to wire guided localization procedure demonstrated findings suggestive of a pseudoaneurysm within the lesion and the wire was not placed. The conservative breast procedure was performed and the pseudoaneurysm was completely excised along with the mass while its feeding artery was identified and clipped safely. Furthermore, this paper revises most of the documented cases in the literature of iatrogenic pseudoaneurysm following a biopsy of breast lesion. Overall, this case highlights the importance of careful evaluation of needle trajectory route to avoid arterial puncture in the way between the skin and lesion.
in situ or invasive malignancy. Pseudoaneurysm (PA) results from disruption of arterial wall and leakage of blood into the surrounding tissue. Unlike a true aneurysm, a pseudoaneurysm does not have the normal 3 layers of the arterial wall. Pseudoaneurysm of the breast is a very rare complication, which may occur after breast biopsy with a large core needle. Most cases are reported after excisions or needle biopsies. We could find 22 reported cases of breast PA during the last 20 years in the literature. Breast CNB is an easily performed and minimally invasive procedure. Breast PAs after CNB are very rare and usually present as palpable breast lumps after a few days or weeks. Many cases of breast PA undergo spontaneous thrombosis and are not clinically evident. Detection of a pulsatile mass near a recent biopsy site should draw attention to the presence of PA. Non-surgical options compression, ultrasound guided compression, percutaneous embolization, and surgical ligation of PA. Surgical excision of the lesion is usually performed when there is a primary malignancy in the breast. Review of the literature shows that compression techniques have been successful in only three of seven cases [5].

**Discussion**

This case highlights the importance of careful evaluation of needle trajectory route to avoid arterial puncture in the way between the skin and lesion.

**References**