RADY 413 Case Presentation

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August 2022
Focused patient history and workup

• 68-year-old female with bilateral nonsprontaneous nipple discharge x 1 year, that has more recently become dark brown in color on the right side. Physical exam reveals no skin changes, masses, or nipple discharge bilaterally. No family history of breast cancer.
List of imaging studies

1. Bilateral diagnostic mammography
2. Right breast diagnostic ultrasound
3. Right breast ultrasound guided core needle biopsy
Findings: There are innumerable bilateral subcentimeter round and oval breast masses unchanged from previously. There are no suspicious masses, calcifications, sites of architectural distortion or developing asymmetries.
Right breast diagnostic ultrasound

Findings?
Right breast diagnostic ultrasound

**Findings:** Targeted ultrasound of the right retroareolar 9:00 anterior depth demonstrates a 1.3 x 0.3 x 0.5 cm intraductal mass. Papilloma is the most likely diagnosis.

**Assessment:** BI-RADS Category 4A: Suspicious. Biopsy should be performed in the absence of clinical contraindication.
Right breast ultrasound guided core needle biopsy

Pre biopsy image: Using ultrasound guidance, aseptic technique, and 1% lidocaine, the mass of concern was sampled 2 times with a 14-gauge Achieve biopsy needle, after which the mass could no longer be identified.
Pathology and patient outcome

- Most of the cores show unremarkable breast tissue with large caliber ducts and focal usual ductal hyperplasia. One duct contains detached microscopic fragments that may represent fibrovascular cores from a microscopic (<1 mm) intraductal papilloma.

- **Final pathology: Intraductal papilloma**

- Core needle biopsy results are benign and concordant with the imaging.

- Short interval clinical follow up recommended based on symptomatology, along with annual screening mammography.
Differential of nipple discharge

- Benign nipple discharge: pregnancy, lactation, physiologic, hyperprolactin states, medications
- Pathologic discharge: duct ectasia, intraductal papilloma, abscess, ductal carcinoma in situ (DCIS), and invasive cancer
- Trauma, core or surgical biopsy, and cyst aspiration are rare causes of bloody discharge
Distinguishing worrisome from benign nipple discharge

Potentially cancerous
- Unilateral
- Uniductal
- Bloody or guaiac positive, or serous
- Spontaneous
- Associated with a breast mass
- Over 40 years of age

Probably benign
- Bilateral
- Multiductal
- Yellow, green, black, or milky
- Expressible
Imaging workup

• At UNC the work up involves diagnostic mammogram, compression magnification views of the retroareolar anterior depth of affected breast, and targeted ipsilateral breast ultrasound

• Galactography (specialized imaging study - injected contrast into an affected duct seeking an intraductal filling defect) can also be performed to evaluate the duct system to identify the location of ductal masses

• MRI can be used to evaluate nipple discharge as well when US is negative/inconclusive
Intraductal papillomas

- Intraductal papillomas are benign lesions that arise in breast ducts and are histologically characterized by finger-like fibrovascular cores covered with both epithelial and myoepithelial cells
  - Central papillomas originate in the subareolar large ducts and are usually solitary and large
  - Peripheral papillomas arise in the terminal-duct lobular unit (TDLU) and are usually smaller and multiple in number
- Women of all ages can develop intraductal papillomas, and risk factors include contraceptive use, hormone replacement therapy, lifetime estrogen exposure, and family history

Annotated H&E of Intraductal Papilloma (Dr. Thomas Lawton)
Intraductal papillomas cont.

• Present clinically with unilateral sanguinous, serous, or serosanguinous nipple discharge or with a palpable mass, however most patients are asymptomatic

• When seen mammographically, may present as a round/oval mass with a circumscribed or indistinct margin and may be associated with microcalcifications

• On ultrasound, the mass is commonly near the nipple and the tumor will be in a dilated duct

• Biopsy is imperative, as there is a possibility of harboring atypical ductal hyperplasia (atypical epithelial population is < 3 mm), DCIS (atypical epithelial population ≥ 3 mm), or occult carcinoma
UNC Top Three

• Concerning nipple discharge is bloody or guaiac positive, unilateral, uniductal, and spontaneous

• Classic sonographic findings for intraductal papilloma include an intraductal solid mass of varying size near the nipple

• Core needle biopsy of intraductal papilloma should be performed to evaluate for areas of ADH or DCIS within the lesion
References


• Li A, Kirk L. Intraductal Papilloma. [Updated 2022 May 14]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-.