Teaching Breast lump aspiration

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Disclosure

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No conflict to disclose

Dr. Christiane Kuntz
No conflict to disclose
Objectives for workshop

1. Teach the indications and contraindications for breast lump aspiration
2. Review potential complications
3. Practise breast cyst aspiration on a life-like model
4. Try out a homemade breast cyst aspiration teaching model
Patient: Denise age 38

- Mass L breast 3 o’clock for 1 month which has become larger and tender in the past few days
- Denise is very anxious when she arrives at your office
- On examination, the mass feels cystic and tender
What do you do?

- 1-attempt to aspirate the cyst
- 2-refer the patient to a breast clinic for aspiration of the cyst
- 3-do a mammogram first
- 4-do a mammogram and ultrasound first
Answer

1-attempt to aspirate the cyst
Do you need to do an ultrasound before attempting breast cyst aspiration?
Do you need to do an ultrasound before attempting breast cyst aspiration?

No
You did an ultrasound anyway! what does it show?

- ‘Simple’ cysts on ultrasound are benign
- Simple cysts do not predispose to breast cancer
- Tiny simple cysts on US that you can’t palpate don’t need special follow-up
Multiple well defined ovoid nodules seen on CC mammogram (Panel A). Simple cyst is seen on ultrasound (Panel B), confirming benign nature of the mammographic nodule.

CC: craniocaudal.

Benign breast cysts
Why learn to do breast cyst aspiration?

- Safe, well-tolerated procedure
- Simple, easily mastered
- Reduces patient anxiety
- Reduces breast pain
- Reduces waiting time for diagnosis
Who gets breast cysts?

- Common cause of palpable breast masses in premenopausal women between 30-50.
- Uncommon in postmenopausal women: if you feel a lump in a postmenopausal woman be aware. You must rule out a breast cancer.
Characteristics of Breast cysts

- Can appear suddenly, then disappear.
- Often tender.
- Round and move under the examining fingers.
What if the patient were 28 instead of 38 with a breast lump? What is the most likely cause?
The most common cause of a breast lump in a 28 y o woman:

- In women under 35: fibroadenomas are more common breast masses.
Dispel with learners the myths about characteristics of benign versus malignant breast masses
Suspicious Characteristics on breast examination

- A single, hard immovable mass with irregular borders are textbook characteristics of breast cancer but **BEWARE**: these are not early findings of breast cancer but rather **late** findings.

- Early stage: a breast cancer mass is often soft or cystic, freely movable, smooth and less than 2 cm.

- Check for axillary nodes: if enlarged, suspicious of possible spread of cancer. Axillary node status is the **MOST** important prognostic factor.
**Physical examination findings of cancerous and noncancerous breast lumps**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Cancerous lumps, 88 cases, percent</th>
<th>Benign lumps, 351 cases, percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>91</td>
<td>91</td>
</tr>
<tr>
<td>Soft to cystic</td>
<td>38</td>
<td>61</td>
</tr>
<tr>
<td>Regular</td>
<td>41</td>
<td>67</td>
</tr>
<tr>
<td>&lt;2 cm</td>
<td>28</td>
<td>63</td>
</tr>
</tbody>
</table>

* Biopsy result.
UpToDate Chapter 'Primary Care Evaluation of Breast Lumps
Table 3
What equipment do you need to do breast cyst aspiration?

- Alcohol swab
- 21 or 22 gauge needle
- 5 or 10 ml syringe
- Bandaid
- No need for skin anesthesia
Step 1

- Immobilize the mass between index and middle fingers of nondominant hand
- The mass may be moved over a rib to reduce the remote risk of pneumothorax
Step 2

- The syringe is held like a pencil by the dominant hand while the needle is inserted into the centre of the mass.
Step 3

- The fingers of the dominant hand slowly walk up the syringe, and the thumb pulls the plunger up to aspirate the contents of the cyst.
Common questions asked by patients and physicians

- What does the fluid look like?
- What do you do with the aspirated fluid?
- What are the complications of breast cyst aspiration?
- What is the follow-up after breast cyst aspiration?
- What do you do if you get no fluid?
- When do you refer to a surgeon or radiologist?
What does the fluid look like?

- Usually yellow-green, thin and clear or semi-opaque
- Rarely can be bloody
- at times dry tap and need to adjust needle placement to ensure that cyst is not missed
What do you do with the aspirated fluid?

- Discard fluid if not bloody (support in literature).
- If bloody send for cytology (alcohol based preservative).
- **Check that lump gone after aspiration.**
What are the complications of breast cyst aspiration?

- Complications are rare: bruising, local infection, small hematoma
- Very rare: pneumothorax
To avoid a pneumothorax

• Be extra cautious in very thin women
• Use rib as a guard before aspiration
• Pass the needle parallel to chest wall instead of usual right angle if at periphery of breast where less breast tissue
What is the follow-up after breast cyst aspiration?

- Palpate cyst after aspiration to ensure complete resolution
- Reevaluate the patient in 6-8 wks to be certain cyst has not refilled
- Refer patient for surgical biopsy if there is refilling or residual mass
What if you get no fluid?

- Change the procedure to a fine needle aspiration.
- Aim the needle in various directions within the mass while applying negative pressure.
- Empty the contents (which are usually tiny) into a cytology specimen container (alcohol not formalin) for pathology. Beware of false negatives.
When do you refer to a surgeon or radiologist?

- If no fluid is aspirated
- If the aspirated fluid is bloody
- If there is a residual mass
A 52 year old woman comes to see you because she thinks she has eczema on her left breast.
Normal right nipple

Biopsy proven Paget's left nipple
What is Paget’s disease of the breast?
What is Paget’s disease of the breast?

- an uncommon type of ductal breast cancer that appears as a persistent scaly lesion on the nipple and then spreads to the areola.

- Paget’s disease often appears without an associated breast mass or mammographic abnormality. The diagnosis of Paget’s disease of the breast is usually made by punch or full-thickness biopsy of the nipple.
How do Paget’s disease and eczema of the breast differ?
How do Paget’s disease and eczema differ?

• Paget’s disease:
  – Rare
  – Unilateral
  – Starts on the nipple and spreads to the areola (origin is in the duct)

• Breast eczema:
  – Common
  – Bilateral usually
  – Starts on the areola
A 32 year old woman presents with a white L nipple discharge only when she squeezes the nipple.
• The nipple discharge has been happening regularly for 8 months.
• She stopped breastfeeding 2 years ago.
• She first noticed the nipple discharge when she pressed on her breast during self-breast examination.
What is your evaluation and management?
Evaluation

- Is nipple discharge provoked (elicited) or spontaneous?
- Provoked nipple discharge: occurs with manual pressure eg during sexual activity, milking the breast, mammogram exam.
- Provoked discharge can vary from drops to a spray and will continue if breast manipulation continues.
Evaluation & management

- Do complete breast examination
- Reassure woman that discharge will stop if breast manipulation stops but may take several weeks.
Unilateral nipple discharge versus galactorrhea

- Galactorrhea is bilateral milky nipple discharge.
- Inquire about medications: eg tranquilizers or antihypertensives.
- Check prolactin level and if elevated consider pituitary tumour.
Scenario: A 47 y o woman presents with a rusty/bloody R nipple discharge
• She noticed the nipple discharge on her bra and pyjamas.
• It is unilateral and ‘rusty’ or bloody.
• It occurs spontaneously.
Multi-duct Discharge:
What are possible causes?
Causes of bloody nipple discharge

- **Intraductal papilloma** most common cause of spontaneous bloody discharge. (duct ectasia less common cause).
- Usually between ages 30 to 50.
- Usually a solitary lesion in a major duct in subareolar region.
- Usually benign but some papillomas can contain atypia or DCIS.
- 5-15% malignancy in women over 40 with bloody nipple discharge.
Evaluation of bloody nipple discharge

- Complete clinical breast exam.
- Attempt to elicit nipple discharge and if bloody, send for cytology.
- If over 35, woman should have mammogram with magnification views of subareolar area.
- Ductogram or galactogram may be done by surgeon.
Treatment

- Treatment of a spontaneous serosanguinuous or bloody nipple discharge is referral to a surgeon for excision of the involved duct.
Time to practise breast cyst aspiraton on breast models.

Caution for learners to be gentle with models: fill reservoirs through ports and not into ‘cysts’.
A cheaper alternative to a purchased breast model

How to make your own breast model from household ingredients
references