# EVALUATION of NIPPLE DISCHARGE

FLAME LECTURE: 185

BURNS/BOTELHO 8.13.15

# Learning Objectives

- Describe the symptoms and physical examination findings of benign or malignant conditions of the breast
- Demonstrate the performance of a clinical breast exam
- Discuss the steps in the evaluation of common breast complaints
- Discuss initial management options for benign and malignant conditions of the breast
- Prerequisites:
  - FLAME LECTURE 7- The basic OBGYN exam: Breast
- See also – for closely related topics
  - FLAME LECTURE 186 – Evaluation of Mastalgia
  - FLAME LECTURE 187 – Breast Cancer

# Causes of Nipple Discharge

- Lactation
  - Physiologic post-partum discharge of breast milk and colostrum
- Galactorrhea
  - Physiologic discharge discharge of breast milk unrelated to pregnancy
  - Caused by hyperprolactinemia: (see **FLAME: HYPERPROLACTEMIA** for more info)
    - Prolactinoma
    - Sarcoidosis
    - Disruption of pituitary stalk by trauma/craniopharyngiomas can cut off inhibitory dopamine
    - Medications
      - Antipsychotics (risperidone, haloperidol), Gastric motility drugs (metoclopramide, domperidone) which ↓ dopamine inhibition via D2 antagonism, Verapamil, Oral contraceptives

# Causes of Nipple Discharge

- Mastitis
  - purulent discharge from bacterial infection
  - Common during breast-feeding
  - See FLAME: MASTITIS
- Papilloma
  - Benign intraductal papillary growth
- Papillary Carcinoma
  - Malignant intraductal papillary growth
- Paget's Disease/DCIS
  - Malignancy of epidermis of nipple
- Chest wall trauma
  - Thoracotomy, burns, herpes zoster
- Neurogenic stimulation
  - bra/clothing, sexual stimulation

# History

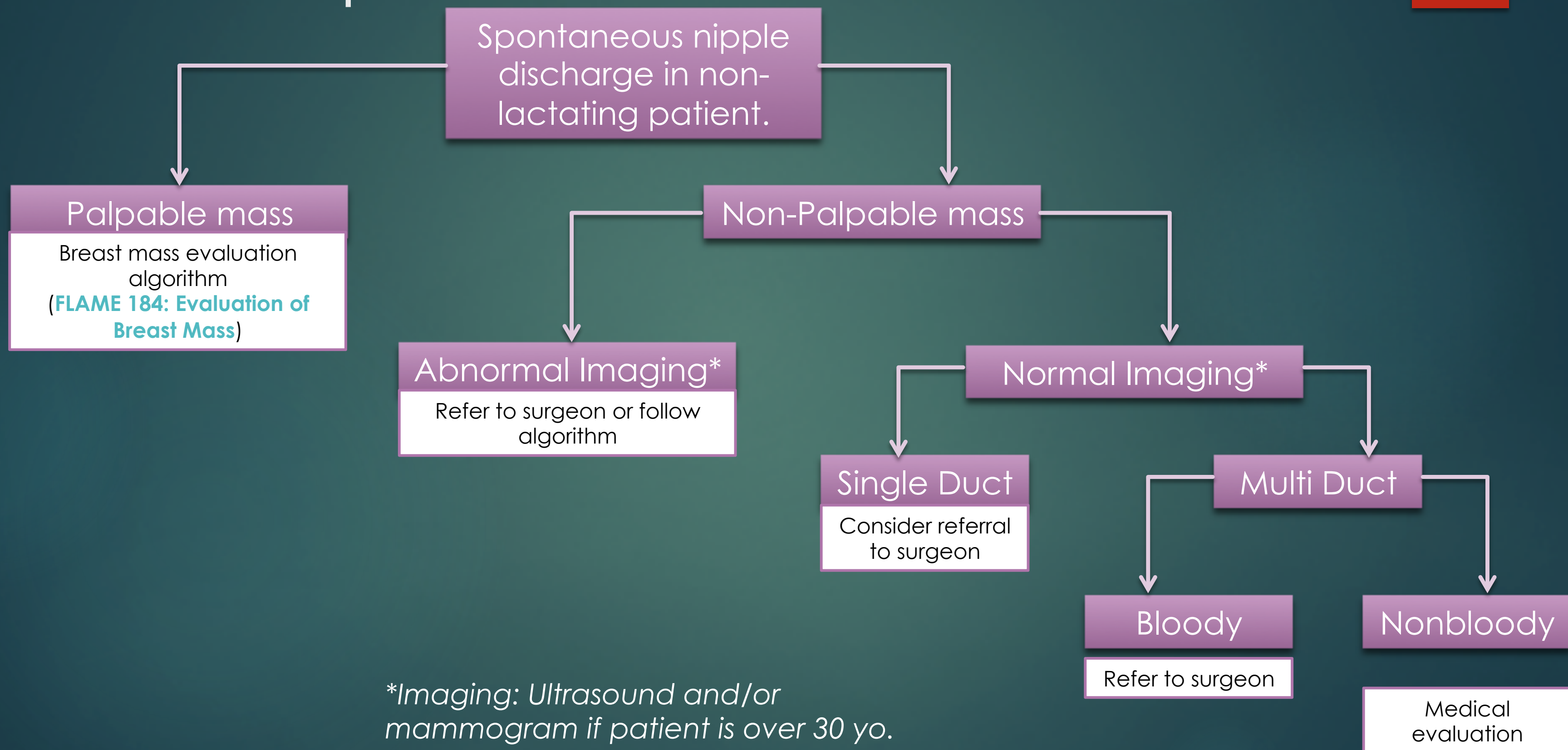
- Unilateral or bilateral
- Spontaneous or provoked by stimulation
- Discharge description
  - **Clear/transparent/straw-colored discharge** – Lactation, galactorrhea
  - **Yellow discharge** – galactocele or fibrocystic changes
  - **Green sticky discharge** – duct ectasia (plasma cell mastitis – clogging of lactiferous duct)
  - **Purulent discharge** – mastitis or breast abscess
  - **Pink or red (bloody) discharge** – intraductal papilloma, infiltrating cancer, intraductal hyperplasia, benign fibrocystic changes
  - No obvious discharge but with stained bra/clothes – dermatitis, eczema, Paget's disease
  - *Color is not indicative of cancer, blood may be indicative of cancer*
- Related symptoms
  - amenorrhea, menopausal symptoms, hyper/hypothyroidism symptoms
- Most concerning: unilateral, bloody, single duct suggests cancer origin
- Least concerning: bilateral, non-bloody, multiductal suggests endocrine origin

# Physical Exam & Labs

- Breast exam:
  - Elicit discharge from nipple (often easiest to have the patient do this herself)
    - Check to see if discharge is from single duct or multi-ductal
    - If discharge difficult to elicit, use warm compress
    - Test discharge for guaiac positivity
  - Skin changes around nipple/areola
  - Nipple retraction, dimpling, edema
  - Lesions, insect bites, mastitis that could be mimic nipple discharge
- Neurological exam:
  - Bitemporal vision loss – suggestive of pituitary adenoma compressing optic chiasm
- Labs: pregnancy test, prolactin levels, renal and thyroid function tests

# Imaging

- **Ultrasound**
  - **Recommended in all patients with nipple discharge**
  - Especially helpful for intraductal lesions, nodules and ductal dilation
  - Can be combined with ultrasound guided biopsy or wire localization
- Mammogram
  - **Recommended if patient is >30 yo**
  - Limitations: difficult identifying lesions that lack calcifications or are solely intraductal
    - Especially limited in identifying intraductal papillomas
- Ductography
  - Iodine contrast injected into ducts allowing visualization of intraductal defects
  - Requires eliciting discharge on examination
  - Limited diagnostic value but can be used to locate a lesion for more accurate surgical treatment.
- Ductoscopy
  - Scope placed in discharging duct
  - Efficacy is equivalent to surgical exploration
- Cytological evaluation of discharge is NOT recommended


Next Steps
Spontaneous nipple discharge in non-lactating patient.
Palpable mass
Breast mass evaluation algorithm (FLAME 184: Evaluation of Breast Mass)
Non-Palpable mass
Abnormal Imaging*
Refer to surgeon or follow algorithm
Normal Imaging*
Single Duct
Consider referral to surgeon
Multi Duct
Bloody
Refer to surgeon
Nonbloody
Medical evaluation
*Imaging: Ultrasound and/or mammogram if patient is over 30 yo.

# Treatment

- Surgical
  - Malignant cause of discharge
  - Pathologic, non-malignant discharge – terminal duct excision
    - Single ductal excision can still allow for breastfeeding in premenopausal women
    - After multiple ductal excisions most are often unable to subsequently breastfeed
- Medical
  - Mastitis:
    - First line antibiotic treatment (FLAME 76: Mastitis)
  - Galactorrhea from medications:
    - Discontinue or taper
    - Educate and reassure if meds can't be discontinued
- Most often education, behavioral changes, and reassurance as appropriate

# IMPORTANT LINKS / REFERENCES


1. ACOG Practice Bulletin 122 – Breast Cancer Screening
2. Uptodate.com