BREAST DISORDERS

MOST COMMON COMPLAINTS → BREAST MASS, NIPPLE DISCHARGE, INFECTION OR POST-OPERATIVE COMPLICATIONS

CLINICAL FEATURES:

- HISTORY AND EXAM:
  - Ensure privacy, comfort and be reassuring
  - Onset of mass/pain, location and duration of symptoms
  - Complaints that VARY WITH MENSES suggest a benign cause
  - Radiation to other body sites is particularly important when malignancy is suspected → if present in the contralateral parenchyma, this is reassuring
  - Ask about family history → esp first degree relatives with breast ca
  - Ask about breast irradiation, previous biopsy findings, delay of childbearing to past 30
    - All in all, <1% of breast ca happens before 30
  - Breast exam → best performed with patient supine with ipsilateral forearm behind the head. Palpate rotatory clockwise direction. Particular care to upper outer quadrant → half of malignancies arise there. Describe masses by their location (upper/lower, inner/outer quadrant) and by their distance from the areola/nipple
    - Subtle abnormalities are accentuated by having patient raise their arms above their head

PHYSIOLOGY AND DISORDERS OF THE LACTATING BREAST:

- **ABNORMAL LACTATION:**
  - Any inappropriate secretion of milky discharge form the breast is called GALACTORRHOEA → often results from abnormally elevated prolactin, causes of which are outlined below:

Table 108-1 Causes of Elevated Prolactin Levels

Physiologic causes	Sleep, stress, exercise, volume depletion, intercourse or orgasm, pregnancy, breast stimulation, seizures
Abnormal stimulation of the chest wall	Surgery, trauma, herpetic infection
Damage to or disruption of the pituitary stalk	—
Endogenous hypothalamic-pituitary signaling	—
Neoplasms	Prolactinomas, renal cell carcinoma, lymphoma, craniopharyngioma, bronchogenic carcinoma, hydatidiform mole
Medications	Antidepressants (monoamine oxidase inhibitors, selective serotonin reuptake inhibitors, tricyclic antidepressants), antihypertensives (atenolol, methyldopa, reserpine, verapamil), antipsychotic phenothiazines, antihistamines, herbs and vitamin supplements (anise, fennel, nettle, clover, thistle, fenugreek seed), amphetamines, cocaine, opioids, marijuana
Systemic disease	Chronic renal failure, hypothyroidism, hypercortisolism (Cushing disease), acromegaly

- **Prolactinomas:**
    - **BENIGN ANTERIOR PITUITARY NEOPLASMS**
    - Distinguished by symptoms of galactorrhoea, amenorrhoea, hirsutism, facial acne, visual field deficits and headaches
- Assessment of galactorrhoea focues on history of menstrual abnormalities, presence of acne, hirsutism, infertility or libido changes as well as evidence of raised ICP
    - Assess visual fields, breast, skin and thyroid gland
    - Arrange for outpatient MRI if there is concern for intracranial mass
- **COMPLICATIONS OF LACTATION:**
    - BREAST ENGORGEMENT:
        - Usually presents on 3rd-5th day post-partum with symptoms of painful, hard and enlarged breasts
        - Pumping the breasts usually alleviates the pain
    - PUERPURAL MASTITIS:
        - Usually occurs after bacterial colonisation secondary to areolar inflammation and glandular obstruction → increased susceptibility to suppurative mastitis during nursing
        - Usually occurs in the early post-partum period, when the skin of the nipples is most easily damaged
        - Patient may report fevers, chills, myalgias or flulike symptoms
        - Caused by Staph aureus in 40% cases
        - TREATMENT → frequent breast emptying, analgesia, frequent hand-washing
            - If symptoms are severe → anti-staph antibiotics
            - THERE IS NO NEED TO ROUTINELY INTERRUPT BREAST-FEEDING WITH PUERPURAL MASTITIS
            - If infection fails to respond to antibiotics, ASSESS FOR ABSCESS
    - ABSCESS:
        - Differentiation between mastitis with overlying cellulitis and abscess can be difficult → US of the area very helpful
        - If abscess is present, refer for drainage with interruption of breast feeding plus antibiotics

<u>INFLAMMATORY BREAST CONDITIONS:</u>

- Differential of an inflamed breast includes infectious mastitis, breast abscess, periductal mastitis, ruptured breast cyst, inflammatory neoplasm, metastatic cancer from a primary lesion
- Failure of the lesion to improve with antibiotics indicates the need for urgent surgical consultation and possible biopsy to exclude the presence of an inflammatory cancer

ACUTE MASTITIS AND BREAST ABSCESS:

- Acute infection of the breast generally present with erythema, oedema, tenderness, malaise and fever

- Mastitis (or superficial cellulitis of the breast) usually treated conservatively with antibiotics and frequent reassessment

If systemic symptoms develop, early treatment with antibiotics is important to prevent abscess formation. Use:

di/flucloxacillin 500 mg orally, 6-hourly for at least 5 days.

For patients hypersensitive to penicillin (excluding immediate hypersensitivity, see Table 2.2), use:

cephalexin 500 mg orally, 6-hourly for at least 5 days.

For patients with immediate penicillin hypersensitivity (see Table 2.2), use:

clindamycin 450 mg orally, 8-hourly for at least 5 days.

If severe cellulitis has developed, antibiotics should initially be given IV (see Severe cellulitis). Change to oral therapy (see above) when symptoms are resolving. Failure of symptoms to improve after 2 to 3 days suggests other pathogens, or an abscess requiring review, surgical drainage and bacteriological examination of the pus.

If patient has significant systemic features or is not responding to oral therapy after 48 hours, commence IV therapy.

To treat infection with either streptococci or staphylococci, use initially:

di/flucloxacillin 2 g (child: 50 mg/kg up to 2 g) IV, 6-hourly.

For patients hypersensitive to penicillin (excluding immediate hypersensitivity, see Table 2.2), use initially:

cephazolin 2 g (child: 50 mg/kg up to 2 g) IV, 8-hourly.

For patients with immediate penicillin hypersensitivity (see Table 2.2), use initially:

1 **clindamycin 450 mg (child: 10 mg/kg up to 450 mg) IV or orally, 8-hourly**

OR

1 **lincomycin 600 mg (child: 15 mg/kg up to 600 mg) IV, 8-hourly**

OR

2 **vancomycin 1.5 g (child less than 12 years: 30 mg/kg up to 1.5 g) IV, 12-hourly (adjust initial dosage for renal function and monitor blood concentrations, see Dosing and monitoring of vancomycin; slow infusion required).**

- Superficial periareolar abscesses often may simply be incised and drained by the surgeon, whereas general anaesthesia may be required for larger periareolar or retroareolar abscesses
    - There are case reports of seeding the needle tract with malignant cells, so use caution → surgical referral more prudent
    - Regardless of the method of drainage, should respond rapidly to antibiotics
- General indications for admission:
    - Systemic toxicity
    - Obvious sepsis or haemodynamic compromise
    - Immunosuppression or immunocompromise (e.g. DM)
    - Rapidly progressive infection
    - Failure of outpatient antibiotic therapy
    - INITIAL TREATMENT AS ABOVE

PERIDUCTAL MASTITIS (MAMMARY DUCT ECTASIA):

- Uncommon benign disorder characterised by dilated or ectatic ducts with retained secretions
- Constant mastalgia in women over 40
- Treat superimposed infection and refer to a breast surgeon for definitive care

HIDRADENITIS SUPPURATIVA:

- Frequently presents with recurrent multiple cutaneous abscesses, sinus tracts and scarring of the breast folds, axillae, groin and perineum
- It is CHRONIC INFLAMMATORY DISEASE INVOLVING THE OBSTRUCTION OF SWEAT GLANDS ASSOCIATED WITH POLYMICROBIAL COLONISATION (STAPH AND STREP)
- Patients present with painful superficial cutaneous abscesses and present for surgical drainage → usually sufficient for limited area of abscess formation.
- NO CURE, EXCEPT FOR EXTENSIVE SURGICAL EXCISION OF THE APOCRINE TISSUES
- Antibiotics often NOT USED in immunocompetent individuals

INFLAMMATORY BREAST CANCER:

- Of all potential breast malignancy, this is the entity with the HIGHEST MORTALITY AND LONGEST DELAY FROM INITIAL PRESENTATION TO DEFINITIVE DIAGNOSIS
- Presentation is characterised by symptoms of mastalgia and breast inflammation due to tumour infiltration of dermal lymphatics
- Often indistinguishable from infection → consider if there is not an initial good response to antibiotics or if breast cellulitis or abscess fails to completely resolve

<u>NONINFLAMMATORY PAINFUL BREAST DISORDERS:</u>

MASTODYNIA:

- Also called MASTALGIA → aka BREAST PAIN
- Discomfort is usually cyclical, changing with the menstrual cycle and may be referred to the axilla or scapula
- Examination reveals tender, nodular breasts, suggestive of fibrocystic change, but do NOT RULE OUT MALIGNANCY
- Reassurance and use of a supportive bra are adequate initial treatment
- Advise follow up with LMO for further treatment and imaging

NIPPLE DISCHARGE:

- In general, nipple discharge that is bilateral, occurs with nipple manipulation and can be expressed form several ducts is no suggestive of cancer
- HOWEVER → nipple discharge that originates in a single breast, emanates form a single duct and is either clear, pink, bloody or serosanguineous is associated with increased risk of carcinoma
- Causes are outlined below:

Table 108-3 Possible Causes of Different Types of Nipple Discharge	
Type of Discharge	**Cause**
Purulent	Infection
	Periductal mastitis
Milky (galactorrhea)	Pregnancy
	Prolactinoma
	Pituitary adenoma or intracranial mass
	Drugs: hormones, psychotropics (phenothiazines), histamine-2 receptor antagonists, antiemetics (metoclopramide), antihypertensives (methyldopa, verapamil)
Serous or serosanguineous	Intraductal papilloma
	Ductal ectasia
	Cancer
Watery	Papilloma
	Cancer
Green, gray, black, or tan	Duct ectasia or periductal mastitis

SKIN AND NIPPLE ABNORMALITIES:

MONDOR DISEASE:

- Thrombophlebitis of the superficial thoracoepigastric vein → resulting in a cordlike mass in the breast associated with dimpling
- No cause found in most cases
- Can be mistaken for inflammatory cancer and is benign and self-limited
- Treatment is provision of NSAIDs for pain relief

NIPPLE IRRITATION:

- Nipple irritation may be caused by repeated friction from clothing or sunburn
- Nipples are easily protected from chronic abrasion by lanolin, vasoline or protective pads
- Nipple irritation may also be indicative of atopic dermatitis, erosive adenomatosis or PAGET DISEASE (almost always associated with underlying carcinoma) → referral to breast surgeon

FIBROCYSTIC DISEASE AND THE EVALUATION OF A BREAST MASS:

- Refers to breast nodularity and tenderness which occur as a result fo breast tissue responses to hormonal cycling
- Fibrocystic changes DO NOT INCLUDE:
    - Skin thickening
    - Oedema
    - Discolouration

    - Nipple retraction
    - Discharge
- Women with recurrent or severe symptoms, skin changes, nipple abnormalities or anxiety should be referred to a breast surgeon
- Genetic testing in breast ca in young women → BRCA-1 and BRCA-2
- URGENT REFERRAL REQUIRED IN THOSE WITH PALPABLE MASS PLUS:
    - Lymphadenopathy
    - Skin ulceration
    - Mass fixation to the chest wall
    - Fixed axillary nodes
    - Presence of ipsilateral arm oedema

BREAST TRAUMA:

- Usually seen in association with multiple thoracic injuries and is often accompanied by extensive chest wall ecchymoses (SEAT-BELT SIGN)
- Traumatic breast injuries rarely require specific therapy unless:
    - There is significant avulsion of breast tissue
    - Expanding haematoma
        - Both should prompt emergent surgical involvement
- Fat necrosis is the most common type of inflammatory response to breast injury

PERIOPERATIVE AND POST-OPERATIVE COMPLICATIONS:

- BREAST HAEMATOMA:
    - Best evaluated and treated by operating surgeon
    - Up to 1.5L of blood can extravasate into traumatised breast parenchyma
    - Emergent evaluation required if:
        - Haematoma is rapidly expanding
        - Tensely distended
    - Later presentations often managed conservatively with analgesia, compressive bra and correction of any coagulopathy
    - If haematoma is infected → inpatient management is needed

WOUND INFECTION:

- Treat with oral first generation cephalosporin if there is no evidence of toxicity or immunocompromise
- Worsening cellulitis, development of purulent drainage or failure to improve after 48 hours mandates inpatient management