Subacute and chronic inflammation of the breast

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Non-lactational mastitis Non-lactational mastitis may be defined as inflammation of the breast tissue in a nulliparous woman or occurring after a minimum of 6 months after cessation of lactation. Various forms of non-lactational mastitis include periductal mastitis, . idiopathic granulomatous mastitis (IGM) and tubercular mastitis. Periductal mastitis This is a chronic non-lactational inflammation around the major milk ducts. The pathogenesis is obscure and thought to be autoimmune in nature. The condition is much more common in smokers. It may progress to a subareolar inflammatory mass that may suppurate, forming a subareolar abscess. Thick areolar muscles do not allow the abscess to perf orate through the are - - ola so the pus follows the path of least resistance, rupturing the skin at the areolar edge and forming a mammary or milk duct fistula (Figure 58.25). In some cases, a chronic indurated mass forms beneath the areola, which mimics a car cinoma. Fibrosis in and around major milk ducts causes nipple retraction. The patient presents with central non-cyclical pain, pus - discharge from the nipple and a subareolar tender mass/ abscess or mammary duct fistula. The examination rev eals a tender, firm subareolar lump or abscess, purulent nipple - discharge, thickened tender major milk ducts and a transverse slit-like nipple retraction looking like a fish’s mouth (58.6). Ultrasonography shows thickened major milk ducts with surrounding inflammation or abscess. A lump should be biopsied under ultrasound guidance to confirm the diagnosis. Any pus discharge should be sent for culture sensitivity and ® GeneXpert Mycobacterium tuberculosis complex and resistance - to rifampicin (MTB/RIF) testing to rule out TB. The most common organisms isolated are staphylococci, enterococci, anaerobic streptococci and sometimes Bacteroides and mycobacteria. Many cases of periductal mastitis resolve with a course of antibiotics, combined with needle aspiration of an abscess. However, surgical treatment by major milk duct ex cision is needed in patients with a subareolar abscess or sepsis and a mammary duct fistula. A 1.5- to 2-cm length of the ductal cone should be excised. Smoking cessation must be encouraged to prevent recurrence. Idiopathic granulomatous mastitis This is a benign, self-limiting, inflammatory breast disease of unknown aetiology . It occurs most commonly in young parous women within the first few years after pregnancy . An association between IGM and Corynebacterium kroppenstedtii infection has been postulated. IGM may present as single or multiple central or peripheral inflammatory breast masses, with or without abscess formation. IGM may be associated with skin ulceration, nipple retraction, sinus formation, peau d’orange and axillary lymphadenopathy . These findings may mimic cancer. A needle biopsy of a solid mass establishes the diagnosis of IGM. The tissue/aspirate should also be sent for Gram stain and culture, acid-fast bacilli (AFB) stain and culture and fungal Hans Christian Joachim Gram , 1853–1938, Professor of Pharmacology (1891–1900) and of Medicine (1900–1923), Copenhagen, Denmark, described this method of staining bacteria in 1884. stain and culture. Histologically IGM shows a non-caseating granuloma with chronic inflammation. The di ff er ential diag - noses include

TB, foreign body reaction and sarcoidosis. eat - In symptomatic patients and in those with infection, tr ment with non-steroidal anti-inflammatory drugs and anti - biotics with or without drainage is indicated. In countries where TB is endemic, care should be taken to avoid admin - istering anti-tuberculous therapy as a blanket treatment to all patients with granulomatous mastitis. Anti-tuberculous tr eat - ment should only be given to patients with evidence of TB on imaging, histopathology or microbiological analysis and ® GeneXpert MTB/RIF . In cases of persistent symptoms or progression, treatment with prednisolone (oral or topical) with or without methotrexate has helped in regression of IGM. A major milk duct excision is indicated in patients with a mam - mary duct fistula. Excision of chronic abscess cavities is per - formed in patients with recurrence.

(c) Figure 58.24 (a) Breast abscess; (b) diagrammatic representation; in place. Pectoral fascia Second rib Premammary fascia Pectoralis major muscle Suspensory ligament of Cooper Intercostal muscle Ampulla Intercostal vessels and nerves Lactiferous duct Sixth rib Mammary lobules Intramammary breast abscess (d) (c) closed suction drainage; (d) breastfeeding while a drainage catheter is

Tuberculosis of the breast TB of the breast is uncommon. It is caused by spread from the axillary or internal mammary lymph nodes or osteitis of the rib or sternum. Sometimes infection may reach the breast from the pleural cavity . Uncommon sources of infection can be entry from a cracked nipple or a haematogenous route. It presents with multiple chronic abscesses and sinuses with a typical bluish discoloration of the surrounding skin. The diagnosis rests on bacteriological and histological examination. Tubercular mastitis results in epithelioid cell granuloma with caseating necrosis. AFB can be seen occasionally in the pus/ aspirate from caseation necrosis. Any pus or tissue should be ® sent for Ziehl–Neelsen staining, GeneXpert MTB/RIF test ing and mycobacterial culture. A computed tomography (CT) scan of the chest and abdomen aids in diagnosis by detecting other foci of present or past TB. A Mantoux test may be done; however, it is of little value in countries where TB is endemic. T reatment consists of anti-tuberculous chemotherapy for Franz Ziehl , 1859–1926, German bacteriologist and a professor in Lubeck, Germany . Friedrich Carl Adolf Neelsen , 1854–1898, German pathologist and professor at the Institute of Pathology , University of Rostock, Germany . Charles Mantoux , 1877–1947, physician, Le Cannet, Alpes Maritimes, France, described the intradermal tuberculin skin test in 1908. 6–9 months. Healing is usual, although often delayed with puckered scars (Figure 58.26). Duct ectasia Duct ectasia is defined as dilated major milk ducts. It is consid - ered a disorder of involution as part of ANDI. Abnormally dilated ducts are filled with debris. This acts as an irritant and can lead to periductal inflammation and subsequent fibrosis, leading to nipple retraction. Patients usually present with toothpaste-like or coloured (such as brown, gr een or mud coloured) nipple discharge. The clinical findings of duct ectasia can mimic malignancy as well as benign conditions such as mastitis. Ultrasonography reveals dilated major milk ducts - >3 /uni00A0 mm in diameter. Treatment Triple assessment should be followed by antibiotic therapy if inflammation/infection is present. Co-amoxiclav , flucloxacillin,

Second rib Pectoralis major muscle Subareolar abscess in periductal Intercostal muscle mastitis Intercostal vessels and nerves Lung Lactiferous duct Sixth rib (c) Clavicle Pectoral fascia Premammary fascia Second rib Suspensory Pectoralis ligament of major muscle Cooper Milk duct Intercostal muscle /f_i stula Intercostal vessels Ampulla and nerves Lung Lactiferous duct Sixth rib Figure 58.25 Periductal mastitis. (a) Subareoalar abscess due to blockage of a milk duct. areola. (c)

Diagrammatic representation of a milk (mammary) duct /f_i stula connecting the mammary duct epithelium (d) /uni00A0 Clinical photograph showing a retracted nipple and a milk duct /f_i stula at the areolar edge discharging pus. Clavicle Second rib Pectoralis Subareolar major muscle abscess rupturing Intercostal muscle at edge of areola Intercostal vessels and nerves Lung Lactiferous duct Sixth rib (d) (b) Subareolar abscess ruptured at the edge of the to the skin epithelium.

ciprofloxacin or cefixime along with anti-anaerobic cover with metronidazole or tinidazole for 2–3 weeks is recommended. In patients with profuse nipple discharge or subareolar abscess, major mammary duct excision is performed. Actinomycosis Actinomycosis of the breast is very rare. It is caused by anaer obic Actinomyces bacteria. The lesions present with multiple chronic, pus-discharging, non-healing sinuses over the breast. The pus demonstrates typical black granules and the specific pathogen on microbiology . The condition requires long-term penicillin injections along with curettage of necrotic granulo mas and sinuses. Mondor’s disease Mondor’s disease is thrombophlebitis of the superficial veins of the breast and anterior chest wall. In the absence of injury or infection, the cause of thrombo phlebitis is obscure. The pathognomonic feature is a tender thrombosed subcutaneous cord, usually attached to the skin. When the skin over the breast is stretched b y raising the arm, a narrow , shallow , subcutaneous groove alongside the cord becomes apparent (Figure 58.27). The di ff erential diagnosis is lymphatic permeation from an occult carcinoma of the breast. The only treatment required is to restrict arm movements. The condition usually subsides within a few months without recur rence, complications or deformity .

(a) Figure 58.26 Tuberculosis of the breast. (a) Multiple pus-discharging sinuses from the lower part of the breast and lower chest wall. discoloration of the skin around the tubercular sinus. (c) Undermined edge of a tubercular ulcer.

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