

# 13.6.3 Benign breast disease

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section 13 Endocrine disorders 2406 FURTHER READING Fernandez-Balsells MM, et al. (2010). Clinical review 1: adverse effects of testosterone therapy in adult men: a systematic review and meta-analysis. *J Clin Endocrinol Metab*, 95, 2560–75. Jungwirth A, et al. (2012). European Association of Urology guidelines on male infertility: the 2012 update. *Eur Urol*, 62, 324–32. Kanakis GA, Nieschlag E (2018). Klinefelter syndrome: more than hypogonadism. *Metabolism*, 86, 135–44. Krausz C, Riera-Escamilla A (2018). Genetics of male infertility. *Nat Rev Urol*, 15, 369–84. Kwong JCC, Krakowsky Y, Grober E (2019). Testosterone deficiency: a review and comparison of current guidelines. *J Sex Med*, 16, 812–20. Mulhall JP, et al. (2018). Evaluation and management of testosterone deficiency: AUA guideline. *J Urol*, 200, 423–32. Nieschlag E, Behre HM (eds) (2012). *Testosterone: action, deficiency, substitution*. Cambridge University Press, Cambridge. Petak SM, et al. (2002). AACE Hypogonadism Task Force. Medical guidelines for clinical practice for the evaluation and treatment of hypogonadism in adult male patients—2002 updated. *Endocr Pract*, 8, 440–56.

### 13.6.3 Benign breast disease

Gael M. MacLean ESSENTIALS Benign conditions of the breast are very common, but they cause great anxiety, often leading the patient to be concerned that she has breast cancer. Symptoms may include: (1) a mass in the breast, commonly due to fibroadenoma, benign cystic change, or macrocysts; (2) discharge from the nipple, which may be caused by hyperprolactinaemia, intraduct papilloma, or duct ectasia; and (3) mastalgia. Management involves exclusion of malignancy, often by triple assessment of any palpable abnormality (clinical examination, radiological and pathological assessment), followed by reassurance, with appropriate specific treatment if required.

Introduction Benign conditions of the breast are very common, and can lead to great anxiety that the symptoms may be caused by a breast cancer. For example, a mass in the breast is commonly due to a fibroadenoma or cysts (either micro or macro). Management of symptomatic patients involves the exclusion of malignancy, usually by triple assessment of the palpable area (for medical management of breast cancer, see Chapter 5.7) followed by reassurance and appropriate specific treatment if required.

Congenital abnormalities Complete failure of breast development (amastia) is rare. Failure of breast development presenting with the absence of the pectoralis major muscle and often

ipsilateral upper limb deformity is a condition known as Poland's syndrome (named after Alfred Poland the 19th-century surgeon who first described the condition). Varying degrees of hypoplasia are common, ranging from asymmetry to tubular breasts. Tubular breasts are characterized by lack of breast tissue, enlarged areolae, and narrow base width, resulting in widely spaced narrow breasts which are pendulous. Accessory nipples are a common finding, occurring most frequently on the milk line, often at the inframammary fold. Accessory breast tissue is found most commonly in the axilla. Aberrations of normal breast development and involution

**Fibroadenoma** This is a common aberration of normal lobular development and occurs after puberty in young women. In women under the age of 20 years they account for 60% of palpable lumps. Fibroadenomas are discrete lumps with a smooth or bosselated surface; they are characteristically painless and not fixed to deep structures or skin. Their characteristic mobility has led to these lesions being known as 'breast mice' (see Fig. 13.6.3.1). They also have a characteristic appearance on ultrasound scanning. A core biopsy (or fine needle aspirate) can confirm the diagnosis. The term 'giant fibroadenoma' is variably applied to lesions greater than 5 cm. Most are asymptomatic and involute with age, and calcified fibroadenomas can be an incidental finding on a mammogram in older women. Surgical excision is only indicated if there is diagnostic uncertainty or at the patient's request.

**Benign cystic change (benign breast change)** The monthly hormonal cycle of breast stimulation and involution frequently results in areas of nodularity which can be discrete or diffuse. These may be tender and the patient may notice they are more prominent premenstrually and resolve, in part or completely, with menstruation. Areas of persistent asymmetrical nodularity should be assessed with imaging and biopsy. The pathology may show a spectrum of Fig. 13.6.3.1 Excised fibroadenoma, showing whorled surface.

**13.6.3 Benign breast disease** 2407 benign appearances, from non-proliferative changes through to atypical hyperplasias. These latter lesions are associated with an increased risk of developing breast cancer and excision is normally recommended.

**Macrocysts** Palpable cysts are a common cause of a lump in the involuting, perimenopausal breast. The diagnosis is made by ultrasound or by aspiration of the fluid. The aspirate is classically serous and green, yellow, brown, or inky blue, which can be discarded. A bloody aspirate should be sent for analysis and prompt further investigation, as should a lump which persists after aspiration. Cysts occurring in the postmenopausal, involuted breast are unusual, and an intracystic neoplasm should be excluded.

**Other benign breast lumps**

**Fat necrosis** As the breast has a predominantly fatty stroma, trauma to the breast, even quite minimal, can result in an entity known as fat necrosis. The resultant lump can be hard and irregular and needs to be differentiated from cancer, often requiring tissue analysis.

**Phyllodes tumour** Pathologically these fibroepithelial tumours range from benign (80%) through borderline to malignant. Phyllodes tumours are distinct from fibroadenomas but can be difficult to differentiate clinically as they present similarly as discrete solid masses, although they tend to occur in older patients than fibroadenomas and typically grow rapidly. Treatment, even for the benign lesions, is by excision with a margin as there is a high rate of local recurrence. Larger malignant lesions may require a mastectomy.

**Fibromatosis** This is an unusual condition which presents with a diffuse mass in the breast that can be locally invasive, infiltrating surrounding tissues. As the features can mimic malignancy, both clinically and radiologically, a core biopsy is needed to provide the diagnosis. A range of treatments are described, ranging from radical excision (including chest wall) to more conservative approaches with nonsteroidal anti-inflammatory drugs.

**Diabetic mastopathy (lymphocytic lobulitis)** This is a diffuse rubbery thickening of the breast in insulin dependent diabetics. Once malignancy is excluded, there is no specific treatment.

**Hamartoma** Hamartomas of the breast are clinically very similar to fibroadenomas,

although often slightly softer on palpation. Benign problems of the nipple areolar complex

**Nipple discharge** Nonphysiological lactation (Fig. 13.6.3.2) can be caused by hyperprolactinaemia as a result of a pituitary prolactinoma, which can be treated by surgery or bromocriptine. Single duct serous or serosanguinous discharge is most commonly due to an intraductal papilloma. Surgical excision with micro ductectomy (the duct affected is cannulated and removed) is advised to exclude papillary malignancy. In the peri- and postmenopausal age group, investigations should include mammography and duct excision as ductal carcinoma in situ may present in this way. Intraduct papillomas and carcinomas may both present with blood stained nipple discharge, hence referral to a breast unit is advised. Coloured discharge (green, yellow, brown, or inky blue) from multiple ducts is usually caused by duct ectasia. Total duct excision (Hadfield's operation) is only necessary if the discharge is profuse or distressing to the patient. Periductal fibrosis can result in nipple inversion (classically resulting in a linear, slit-like inversion). Miscellaneous Benign conditions of the nipple/areolar complex include retention cysts of Montgomery's glands, benign pedunculated polyps, and nipple adenomas. The nipple is a common site for eczema, which must be differentiated (with a punch biopsy) from Paget's disease, as the latter is usually associated with an underlying intraductal carcinoma.

**Breast pain (mastalgia)** Mastalgia can be cyclical or noncyclical dependent on its relationship to the menstrual cycle. Classic cyclical pain may need no treatment but reassurance and advice. Some women find relief from oral evening primrose oil or starflower oil, although the active ingredient (GLA:  $\gamma$ -linolenic acid) does not help all women and the treatment needs to be taken daily for at least 3 months to determine whether or not it is effective. If severe, danazol, bromocriptine, and tamoxifen have been used, although they all have significant side effects. Costochondritis or chest wall pain is sometimes erroneously described as 'breast pain'; it can be treated successfully with non-steroidal anti-inflammatory drugs.

**Breast inflammation** Obstruction to milk drainage can result in lactational mastitis or an abscess. This should be dealt with promptly with antibiotics and Fig. 13.6.3.2 Nipple showing discharge from two ducts.

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