

Breast pain:

assessment, management, and referral criteria

INTRODUCTION

Breast pain (mastalgia) is experienced by $\leq 70\%$ of women during their lifetime¹ and may be considered a physiological symptom rather like painful menses, but remains a common presentation in primary care. Despite an absence of evidence suggesting that mastalgia alone is associated with breast cancer, it is still commonly referred to secondary care breast units — in one study it accounted for 41% of referrals.² This article reviews the management of breast pain within primary care and criteria for referral.

CAUSES OF MASTALGIA

Cyclical breast pain is the condition experienced by two-thirds of patients with true mastalgia. It is influenced by hormonal changes over the menstrual cycle, usually worsening in the last week of a cycle and relieved at the onset of menses. Pharmacological hormonal agents can exacerbate symptoms. Contributing factors such as caffeine, iodine deficiency, and dietary fat intake have been suggested, but no link definitively proven.³

Non-cyclical breast pain accounts for around one-third of patients with true mastalgia.⁴ It does not follow a menstrual pattern. Causes could be large pendulous breasts, breast cysts, pregnancy,

thrombophlebitis, trauma, and previous breast surgery.³ Inflammatory conditions such as mastitis (both lactational and non-lactational) and breast abscess are painful, and cause characteristic changes in the breast such as erythema, induration, swelling, and focal pain, which can be identified on examination.⁵ Inflammatory cancer can cause similar signs but characteristically without pain and does not resolve with antibiotic therapy.

Extra-mammary breast pain is now the commonest type of mastalgia referred to breast clinics.¹ It can be caused by musculoskeletal pain, costochondritis (Tietze's syndrome), or radicular pain due to cervical arthritis. Other extra-mammary breast pain could be gall bladder disease, pleuritic pain, or ischaemic heart disease. The management of extra-mammary pain requires a positive diagnosis and exclusion of breast pain by clinical assessment. The treatment of chest wall pain is with non-steroidal anti-inflammatory drugs (NSAIDs) and modifying any exacerbating behaviours.

ASSESSMENT OF MASTALGIA

History

The history should be detailed with regards to the pain, its nature, and any exacerbating or relieving factors (Table 1 outlines features to help distinguish between types

TJE Hubbard, MRCS, surgical registrar; **A Sharma**, MSc, MRCS, surgical registrar, Breast Unit, Royal Devon and Exeter Hospital, Exeter. **DJ Ferguson**, BSc, MS, FRCS, consultant oncoplastic breast surgeon, Breast Unit, Royal Devon and Exeter Hospital, Exeter; honorary associate professor, University of Exeter Medical School, Exeter.

Address for correspondence

Thomas Hubbard, Royal Devon and Exeter NHS Foundation Trust, Breast Care Unit, Barrack Road, Exeter EX2 5DW, UK.

Email: tjehubbard@doctors.org.uk

Submitted: 18 October 2019; **Editor's response:** 27 January 2020; **final acceptance:** 12 February 2020.

©British Journal of General Practice 2020; 70: 419–420.

DOI: <https://doi.org/10.3399/bjgp20X712133>

Box 1. Features in the pain history to help discriminate between types of mastalgia^{1,3}

Cyclical breast pain	Non-cyclical breast pain	Chest wall pain
Starts within 2 weeks before menses, and improves after onset	Not related to menstrual cycle	Unilateral and brought on by activity
Dull, heavy, or aching	Constant or intermittent	Very lateral or medial in the breast
Bilateral	Unilateral and variable	Can be reproduced by pressure on a specific area of the chest wall
Poorly localised and extends into axilla		

of mastalgia). It should also establish the presence or absence of other breast symptoms such as lump, breast changes, nipple discharge, or axillary symptoms. A family history of breast disease and history of hormonal medications is highly relevant.

Examination

The examination is primarily focused on looking for signs of malignancy and ruling out differential diagnoses such as mastitis or pregnancy. For the assessment for chest wall tenderness it is helpful to examine the patient in the lateral semi-recumbent position when the breast will move away slightly from the chest wall and allow more precise palpation of the chest wall. Palpation of the site of tenderness on the chest wall that reproduces the patient's symptoms confirms the diagnosis of extra-mammary pain and enables effective patient reassurance.

MANAGEMENT

Breast pain generally resolves spontaneously. If it persists, there are supportive and interventional measures that can be tried in the primary care setting.

Guidelines for onward referral

Careful assessment is essential to avoid unnecessary referral, which can lead to anxiety or over-investigation. The National Institute for Health and Care Excellence (NICE) states that:

- breast pain is not a criteria for urgent referral, with a positive predictive value of <3% for breast cancer; and⁶
- referral is recommended if cyclical breast pain is affecting quality of life or sleep, and has been ongoing for more than 3 months if the pain is unresponsive to first-line treatment. This is to consider specialist treatments, rather than any increased cancer risk, but imaging may be undertaken for reassurance purposes.³

Supportive measures

Explanation and support alone has a vital role to play in the management of mastalgia.⁷ Careful examination to exclude any palpable abnormality and explanation of the lack of association between pain and breast malignancy may resolve the symptoms.⁷ Recognising the severity and impact that it has for the sufferer can help to provide this reassurance.⁵

Ensuring the patient is wearing a good-fitting bra is essential. Symptoms may be

entirely alleviated by correcting this, as confirmed by numerous studies.⁷

Dietary modification to avoid caffeine, cocoa products, and foodstuffs that contain methylxanthines and an increase in dietary soya may give some symptomatic relief,⁷ but the evidence for these modifications is poor and are not recommended by NICE.³

Interventional measures

Over-the-counter products and supplements may have some benefit in both cyclic and non-cyclic breast pain.^{3,8} A number of interventions have previously been used, but because of a lack of proven efficacy are not recommended by NICE in the treatment of mastalgia. This includes changing oral contraceptives, diuretics, antibiotics, pyridoxine, tibolone, and vitamin E. Evening primrose oil remains commonly used but has no proven efficacy compared with placebo and is not recommended routinely.³

Topical NSAIDs such as diclofenac or piroxicam provide a benefit in many patients and should be considered a first-line treatment.³ Bromocriptine, a dopamine agonist, has also been widely used with good effect.¹

Hormonal treatments may be considered in the secondary care setting; however, they have significant side effects limiting their use. Tamoxifen, an oestrogen receptor blocker, has the most evidence for efficacy in treatment of mastalgia, but the risk of venous thromboembolism must be considered.⁷ It may be given at a low dose (10 mg) for a limited time (6 months) to limit the side effects.⁸ Other hormonal treatments that may be considered include danazol, an androgenic hormone with androgenic side effects that are variably tolerated, and ormeloxifene (a selective oestrogen receptor modulator), which is not licensed for mastalgia in the UK.^{7,8}

CONCLUSION

Breast pain can usually be safely managed in the primary care setting. Secondary care should support GPs and facilitate referral if suspected cancer referral criteria are met or where symptoms are not controlled with supportive measures or non-hormonal treatments.

Provenance

Freely submitted; externally peer reviewed.

Discuss this article

Contribute and read comments about this article: bjgp.org/letters

REFERENCES

1. Dixon JM, Thomas J. Symptoms, assessment and guidelines for referral. In: JM Dixon, ed. *ABC of breast diseases*. Chichester: Wiley-Blackwell, 2012: 1–11.
2. Joyce DP, Alamiri J, Lowery AJ, et al. Breast clinic referrals: can mastalgia be managed in primary care? *Ir J Med Sci* 2014; **183**(4): 639–642.
3. National Institute for Health and Care Excellence. Breast pain — cyclical. Clinical Knowledge Summaries. 2016. <https://cks.nice.org.uk/breast-pain-cyclical/#topicSummary> [accessed 7 Jul 2020].
4. Smith RL, Pruthi S, Fitzpatrick LA. Evaluation and management of breast pain. *Mayo Clin Proc* 2004; **79**(3): 353–372.
5. Ferguson DJ. Breast cancer and other breast lumps. *InnovAiT* 2016; **9**(3): 179–184.
6. National Institute for Health and Care Excellence. *Suspected cancer: recognition and referral. NG12*. 2015. <https://www.nice.org.uk/guidance/ng12> [accessed 7 Jul 2020].
7. Hafiz SP, Barnes NLP, Kirwan CC. Clinical management of idiopathic mastalgia: a systematic review. *J Prim Health Care* 2018; **10**(4): 312–323.
8. Goyal A. Breast pain. *BMJ Clin Evid* 2011; **2011**: 0812.