

# MASTALGIA

*Mastalgia is one of the commonest breast symptoms presenting to general practitioners and surgeons.*

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Mastalgia affects up to 75% of women during their lifetime and is the reason for 50% of all referrals to breast clinics.<sup>1</sup> Most women presenting with mastalgia are anxious that their pain is a symptom of breast cancer. The challenge in managing mastalgia is to strike a safe balance between appropriate investigation, simple reassurance and treatment.

Mastalgia can be divided into three categories:

- cyclical mastalgia
- non-cyclical mastalgia
- extramammary causes of breast pain.<sup>2</sup>

### Cyclical mastalgia

Two-thirds of women with mastalgia have cyclical mastalgia. The mean age of presentation is in the third and fourth decades. It is linked to the menstrual cycle, increasing in severity in the days preceding menstruation and then decreasing after the onset of menses. It is usually described as a bilateral aching pain or heaviness affecting the upper outer quadrants of the breast. Cyclical mastalgia may also be unilateral and focal in nature. Mild premenstrual mastalgia lasting 1 - 4 days can be considered normal. However, up to 30% of women may experience severe pain for more than 5 days and 15% report limitation to their daily activities.<sup>3</sup>

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The exact cause of cyclical mastalgia is poorly understood but the link to the menstrual cycle makes a hormonal connection likely. Women who suffer from mastalgia may have breast tissue with increased sensitivity to oestrogen and may have associated increased levels of prolactin. Patients with cyclical mastalgia have also been found to have decreased levels of gamma linolenic acid.

### Non-cyclical mastalgia

Non-cyclical mastalgia accounts for one-third of mastalgia. This type of mastalgia is more common in older and postmenopausal women. It often presents as a unilateral, sharp, burning or localised pain in one quadrant of the breast. It is important to remember that non-cyclical mastalgia may be caused by localised breast pathology such as large cysts in fibrocystic disease, periductal mastitis, engorgement during lactation or a breast abscess. These potential underlying causes should be looked for and managed appropriately. Very rarely breast cancer may also cause localised tenderness. Usually no specific cause for the pain is found.<sup>4</sup>

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### Extramammary pathology presenting as mastalgia

It is important to exclude extramammary causes of breast pain. These include medical problems such as pleuritic chest pain, angina

and oesophagitis. Herpes zoster may present as mastalgia before the characteristic vesicles have appeared. Trietze's syndrome is pain at the costochondral junctions and commonly presents as mastalgia. All patients with non-cyclical mastalgia should have a careful examination of the chest wall looking for local tenderness at the joint sites. The management of Trietze's syndrome includes simple non-steroidal analgesics and, in severe cases, local injection with steroid/NSAID combinations.

**While mastalgia is not a presenting symptom of breast cancer, it does present an opportunity for screening for a very common cancer in a context where there is generally poor access to medical care.**

### Clinical assessment

Clinical evaluation of a patient with mastalgia includes a detailed history to determine the nature, timing, duration and severity of the pain. The relationship to the menstrual cycle and the impact of the pain on work and social activities are very important. History must include questions to stratify the patient's risk of breast cancer such as the family history and oestrogen window. This should be followed by a careful examination of the breasts and axillae. In the case of non-cyclical mastalgia, particular attention should be paid to extramammary causes of breast pain and specifically the possibility of costochondral pain.

### Investigation

Investigation of patients with mastalgia should be directed at screening for breast cancer. While mastalgia is not a presenting symptom of breast cancer, it does present an opportunity for screening for a very common cancer in a context where there is generally poor access to medical care. However, radiological investigation is not indicated in young women with no risk factors, presenting with cyclical mastalgia and a normal breast examination.<sup>5</sup>

Mammography is recommended for women over 35, those with a positive family history and patients with non-cyclical mastalgia. Fortunately the negative predictive value of a good clinical examination, combined with mammography and/or ultrasound, approaches 100%.<sup>6</sup> If the physical examination or radiology identifies an abnormality such as a breast lump, this must be fully investigated according to standard protocols. It is not uncommon for women presenting with mastalgia to have breast cancer as an incidental finding on screening.

### Management

#### Reassurance

Reassurance after thorough clinical examination and appropriate investigation is the mainstay of management – 85% of patients will be satisfied and relieved once mastalgia is explained and breast cancer is excluded.<sup>7</sup> It is important to take the time to inform patients that mastalgia does not indicate serious pathology, is generally not a presenting symptom for breast cancer and is often self-limiting. It is also valuable to take the opportunity to educate patients on the early warning signs of breast cancer: painless lump, change in appearance, nipple retraction or discharge as well as advising on the need for future screening where appropriate.

### Daily breast pain chart and lifestyle modification

A prospective daily diary to record the presence and severity of breast pain may be valuable. Charts such as the Cardiff Breast Pain Chart allow women to document the nature of their symptoms and the impact on their daily lives. It also helps to define whether mastalgia is cyclical or non-cyclical. It is recommended that this is done over 2 months in the 15% of women who continue to experience severe pain despite reassurance. Accurately recording symptoms also allows a comparison to be made with the potential side-effects of various drugs available for the treatment. A further 20% of patients will find relief with this simple method.<sup>8</sup> Lifestyle modification has been shown to help some groups of women. Mechanical support in the form of a well-fitting, supportive brassiere is simple and effective for many women. Other lifestyle advice is to reduce caffeine, increase exercise, and reduce fat intake and body weight. There is no consensus on the efficacy of these recommendations, although a decrease in body fat may decrease circulating oestrogens and therefore reduce cyclical mastalgia.

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#### Drug treatment

Reassurance after examination and investigation is the mainstay of treatment

for mastalgia. For the small percentage of women who continue to have lifestyle-limiting pain, various drug treatments are available. As most of these drugs, with the exception of evening primrose oil, have significant side-effects, treatment should not be started before referral to a specialist centre. The recommended duration of drug treatment is 6 months.

### Evening primrose oil has long been used as treatment for mastalgia and other premenstrual tension symptoms.

Evening primrose oil has long been used as treatment for mastalgia and other premenstrual tension symptoms. It contains gamma linolenic acid, which has been found to be low in some women with cyclical mastalgia. Despite relief of symptoms for many women and some trials demonstrating its efficacy, placebo-controlled trials do not show a significant reduction in symptoms compared with placebo or other oils. However, many practitioners still recommend the use of evening primrose oil as first-line treatment because of its extremely low side-effect profile.

**Tamoxifen** is an oestrogen receptor blocker mostly used in the management of breast cancer. Low-dose tamoxifen is very effective in treating mastalgia, with a 90% success rate after 6 months of treatment.<sup>9</sup> The relapse rate after completion of 6 months of treatment, however, is up to 50%. Side-effects include perimenopausal symptoms and the increased risk of endometrial carcinoma and thromboembolic events.

**Danazol** is a synthetic testosterone which binds to progesterone and androgen receptors. It reduces cyclical mastalgia by up to 70% and non-cyclical mastalgia by 30%. Unfortunately there is also a high relapse rate. The side-effects of danazol are significant and often not well tolerated by women. These include weight gain, hirsutism, depression and acne. It is also teratogenic and may interfere with the efficacy of the oral contraceptive pill. These factors limit its use.

**Bromocriptine** inhibits the release of prolactin from the pituitary. It has been shown to be effective in the treatment of mastalgia but causes significant side-effects. These include headaches, dizziness, postural hypotension and nausea.

**Non-steroidal inflammatory gels** are a new treatment modality being investigated. A single study looking at a diclofenac gel used continuously over a 6-month period has shown some benefit. The low side-effect profile of this treatment makes it an interesting alternative to other drug regimens.<sup>10</sup>

### There is no evidence that surgery benefits patients with severe mastalgia.

#### Surgery

There is no evidence that surgery benefits patients with severe mastalgia. A single study from the Cardiff Mastalgia Clinic, where only 1.2% of patients with refractory pain were operated on, showed a very high complication rate and a relapse rate of 50%.

References available at [www.cmej.org.za](http://www.cmej.org.za)

## IN A NUTSHELL

- Mastalgia affects up to 75% of all women during their lifetime but is usually mild and self-limiting.
- Anxiety about cancer is the main reason women with mastalgia consult a health practitioner.
- Women under 35 with cyclical mastalgia, no abnormalities on physical examination and no family history of breast cancer do not require further investigation.
- Women over 35 with a family history of breast cancer or non-cyclical mastalgia should be referred for mammographic evaluation.
- Reassurance after thorough examination and appropriate radiology is the mainstay of treatment, with an 85% response rate.
- Lifestyle modification such as a properly fitting brassiere, reduced caffeine intake, a low-fat diet and stress reduction may be of benefit for some women.
- A breast pain diary for 2 months helps to define the severity, site and lifestyle impact of mastalgia and should be performed before further treatment is considered.
- Evening primrose oil for 6 months is the recommended first-line therapy, although there is contradictory evidence regarding its efficacy.
- Drugs such as tamoxifen, danazol and bromocriptine are effective agents but have significant side-effects and should only be prescribed by specialists.
- Surgery has no role in the management of mastalgia.