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Original article

Is there an association between mastalgia and fibromyalgia? Comparing prevalence and symptom severity

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ABSTRACT

To determine the prevalence of mastalgia in patients with fibromyalgia (FM) and the prevalence of FM in patients with mastalgia in order to investigate coexistence, and to compare the pain patterns in the case of mastalgia or FM alone versus the two in combination. Fifty consecutive patients with mastalgia and 50 consecutive patients with FM were assessed and examined both for the existence and severity of mastalgia and FM. A high proportion of patients with mastalgia (36%) fulfilled the criteria for FM and 42% had mastalgia in the FM group. Two distinctive entities mastalgia and FM, being both unexplained pain syndromes, seem to frequently coexist. Patients with mastalgia or FM should be thoroughly questioned considering each of the diseases so that in case of coexistence an appropriate therapy might be implemented for a successful pain management.

Introduction

Mastalgia, or breast pain, is one of the most common breast symptoms in women. The prevalence of mastalgia in women was reported to be as high as 67% in several studies.[1–3] Mastalgia is considered as a benign condition in case certain causes such as infection, malignancy, and extra mammary causes are excluded. Even though many factors including hormonal, nutritional, psychological factors were considered in the etiopathogenesis, a certain etiological factor could not be determined yet.[4] Mastalgia may be either cyclical or non-cyclical. It may be severe enough to interfere with daily living activities resulting in a diminished quality of life and depression with anxiety.[4,5] Although the optimal treatment remains undefined, most women use simple analgesics or get no treatment at all. In rare cases, women with severe, persistent pain are treated with drugs that have serious adverse effects; such as danazol and tamoxifen.[6]

Fibromyalgia, being a distinct chronic pain condition, is characterized by widespread pain and tenderness on palpation at ≥11 of 18 tender point sites, for a duration of at least three months.[7] It is both classified as a rheumatic disease with unknown etiology and also as a central sensitivity syndrome.[8] It is estimated to affect 2.1–10.5% of the female population.[9–12] Patients with FM have a low quality of life and cannot maintain normal daily activities because of widespread musculoskeletal pain, sleep disturbance and fatigue.[13] Recent reviews showed that reducing the symptoms, primarily the pain but also fatigue and cognitive disturbances, with a multidimensional approach including drugs, physical activity recommendations, relaxation techniques, and cognitive behavioral therapy is more effective in the management of FM.[14]

In the FM-out-patient clinic of our institution a high frequency of mastalgia complaint in patients with FM, which is not actually reported to be an apparent symptom in this group of patients, attracted the authors' attention. These two entities, defined as mind-body illnesses, both remain controversial and poorly understood at present. To our knowledge, mastalgia is not counted in the group of central sensitivity syndromes. Thus, it is very important to find out any association between mastalgia and other central sensitivity syndromes such as FM since this might shed light to the

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unknown etiology of mastalgia. Hence, this study aimed to explore if any association was present between these two conditions by searching the frequency of coexistence.

Materials and methods

Fifty consecutive women who were admitted to the General Surgery out-patient clinic with mastalgia complaints (Group I) and 50 consecutive women who were registered to the FM-out-patient clinic of Physical Medicine and Rehabilitation Department (Group II) were included in this study. Exclusion criteria included being unable or insufficient to fill the questionnaires, having history of breast malignancy, previous breast surgery including segmental or modified radical mastectomy, and having a diagnosis of known breast pathology. All the patients were questioned and evaluated for the symptoms that might be related to mastalgia and FM.

Assessment for mastalgia

All subjects in both groups had a detailed breast examination performed by the same surgeon (VG) and were evaluated using breast imaging techniques including mammography and/or sonography when needed according to the clinical findings.

Breast pain questionnaire (BPQ) was used for the assessment of mastalgia, and all the subjects in Group I and those in Group II who had breast pain within the last three months completed the BPQ. The questionnaire is available at http://apkarianlab.northwestern.edu. It is a user-friendly, reliable and validated tool specifically designed for the accurate assessment of breast pain. Carmichael et al. showed that BPQ can be used routinely in a high-traffic breast clinic as a quick assessment tool.[15] Breast pain questionnaire is derived from the McGill Pain Questionnaire and assesses the nature and degree of breast pain, pain pattern, relieving and aggravating factors, its relationship with the menstrual cycle, duration, and frequency. The calculation of the final BPQ score is simple. The score obtained from the BPQ is classified as mild (0–100), moderate (101–200), and severe (>200) as well in order to grade the level of pain.[15,16]

Assessment for fibromyalgia

All subjects in Group II had been diagnosed as FM according to the clinicians' decision considering both the 1990 American College of Rheumatology classification criteria[6] and clinical findings and were registered to the FM-out-patient clinic. All subjects with mastalgia (Group I) were also examined and evaluated according to these criteria to find out if they had FM. Moreover, all subjects in Groups I and II were assessed with visual analog scale (VAS-100 mm) for widespread pain, Fibromyalgia Impact Questionnaire (FIQ),[17] with Short Form −36 (SF-36) for quality of life. Sleep quality and duration of morning stiffness were also questioned.

The FIQ is used as a measure of disease symptom severity which was specifically developed for FM. It consists of questions assessing limitations in the activities of daily living, pain, fatigue, and mood. The validated Turkish version of FIQ is also available.[18]

Sleep disturbance was evaluated by three questions. These were; difficulty in falling asleep (the number of nights/week in which the patient experienced difficulty in falling asleep), frequent awakening during sleep (0 = none, 1 = some of the nights, 2 = every night) and quality of sleep (0 = good, 1 = moderate, 2 = unrefreshing).

The Turkish version of the SF-36 was used to evaluate quality of life.[19] The SF-36 health survey questionnaire was scored using the calculations provided by the SF Community (SF-36.org). Norm-based scoring of the SF-36 was used in this study, since this scoring method has proven to be useful when interpreting differences across scales in the SF-36 profile.[20]

The study was approved by the Local Ethics Committee of Faculty of Medicine, Ankara University. All participants were assured of the confidentiality of their personal information and provided written informed consent.

Statistical analysis

Statistical analyses were performed using SPSS 16.0 (Statistical Package for the Social Sciences). Data were expressed as mean ± standard deviation for metric variables and as frequency (percentage) for categorical variables. Mann–Whitney *U* test was used to compare the two groups in terms of metric variables, and chi-square test was used for categorical variables. A value of $p < 0.05$ was accepted as statistically significant.

Results

The demographic data of the two groups are presented in Table 1. The mean ages of Group I and Group II were 40.9 years (24–64) and 36.9 years (19–58), respectively. No significant differences were detected with respect to educational background, employment status and marital status between the groups. When smoking and caffeine intake in the past year were questioned, 10 subjects in Group I and 15 in Group II smoked daily and 10 subjects in Group I and 7 subjects in Group II had caffeine intake daily. An alcohol misuse was detected in only 1 subject in Group I. Hence, there were no statistical differences related to these habits between the two groups. Forty-five women in Group I and 43 women in Group II were in the pre-menopausal period. Obesity rates between the groups were similar. Among the comorbid conditions, the incidence of gastroesophageal reflux and thyroid diseases were seemed to be higher in women with FM than in Group I, but no statistics could be applied regarding this parameter due to the small numbers. The frequencies of posttraumatic stress disorder, major depression, panic disorder, eating disorder, and domestic violence were similar between the groups. The frequencies of chronic pelvic pain and irritable bowel syndrome, known to be unexplained pain syndromes as well, were found to be similar in both groups.

Prevalence of mastalgia among women with FM was determined to be as 42%, whereas the prevalence of FM among women with mastalgia was 36%.

All subjects in Group I and subjects who had mastalgia in Group II were compared with respect to the total breast pain score, severity and frequency of mastalgia, type of breast pain, use of analgesics, factors aggravating breast pain, and the effects of mastalgia on lifestyle (Table 2). The total breast pain scores of the two groups were similar (146.7 in Group I and 168.8 in patients with mastalgia in Group II) and there was no statistical difference ($p = 0.39$). The frequency of severe mastalgia in Group I and subjects who had mastalgia in Group II were 22% and 28.6%, respectively. Nineteen women (38%) in Group I and 9 patients with mastalgia (42.9%) in Group II characterized the pain as cyclic. Twenty percent of women in Group I reported that they experienced breast pain monthly or less (infrequently), whereas the percentage in women with mastalgia in Group II was 47.6%. Hence, the frequency of mastalgia in Group I was significantly higher than that of in women with mastalgia in Group II ($p = 0.038$). Expectably, the use of analgesics for breast pain in Group I was also greater than that of women with mastalgia in Group II. Twenty-four percent of women with mastalgia in Group II reported that their breast pain increased with stress, while this frequency was 6% in Group I. No significant differences were detected between the two groups with respect to the effects of mastalgia on lifestyle, including occupational life, sleep pattern and sexual activity.