

Characteristics of elderly patients with fibromyalgia: a pilot retrospective study

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ABSTRACT. Background and aims: Very little information is available about the characteristics of fibromyalgia (FM) in older patients. The objective of the study was to know better what are some of their specificities in order to tailor the management of elderly patients with FM. **Methods:** Retrospective chart review of all patients with a diagnosis of FM addressed to the pain consultation of a geriatric hospital, have been analysed. **Results:** Forty patients (38 women and 2 men) were included. Mean age at the moment of diagnosis of FM was 75 ± 9.1 years. Patients were hospitalized with a mean of 6 ± 5.2 years after onset of FM. Median pain intensity measured by a visual or numerical pain scale was 6 at rest and 9 during mobilisation. Seventeen patients were isolated at home because of pain. Symptoms associated with FM were depression ($n=25$), fatigue and poor sleep quality ($n=24$), anxiety ($n=15$), irritable bowel syndrome ($n=10$), restless leg syndrome ($n=3$) and tension-type headache ($n=2$). Traumatic events, such as the death of a relative or nursing home admission were frequent. Twenty-four patients were discharged home, 13 patients in a nursing home and 3 patients died during the hospitalisation. **Discussion:** Although elderly patients with FM constituted a small proportion of elderly patient's addressed to a pain consultation, these patients have some particular features that must be taken into account. Further prospective studies should be conducted in this population.

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INTRODUCTION

The proportion of the world's population over 65 years of age is increasing. Pain, a frequent and debilitating problem in older persons, is too often underdiagnosed

and undertreated. Consequences are severe, including reduced quality of life, increased depression, functional disability, poorer sleep as well as reduced physical health and social isolation (1, 2). Despite the fact that persistent pain is common in the older segment of the population, the overwhelming majority of pain studies have been conducted in middle aged adult populations (3). Fibromyalgia (FM) is a chronic pain syndrome, characterized by widespread musculoskeletal pain and a predictable pattern of tender points, stiffness, fatigue and disturbed sleep (3). Emotional distress is common in patients with FM and quality of life is impaired (4, 5). The majority of patients with FM (>75%) are women between 30 and 50 years old (6). However, a peak prevalence in patients older than 75 years has been described in two studies, even if there was only a small number of elderly patients included (7, 8). Despite the prevalence of this syndrome, information about the characteristics of FM in elderly patients is scarce (9, 10). To improve the care of older patients, it is important to identify their specificities in order to allow for a tailored management of elderly patients with FM. Our main aim was to analyze the characteristics of older patients with a diagnosis of FM hospitalized in a geriatric hospital and who were addressed to a pain consultation.

METHODS

Pilot retrospective chart review of all hospitalized elderly patients with a diagnosis of FM, according to the American College of Rheumatology (ACR) criteria, who were addressed to the inpatient pain consultation (3). Patients with FM were identified by a text search of the database from 1999 to 2009 of the pain consultation (approximately 200 non oncological pain consultations per year) at the geriatric hospital of the University Hospitals of Geneva (300 beds; approximately 3000 admissions per year).

Key words: Elderly, pain, widespread pain, fibromyalgia.

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There were no exclusion criteria. A senior clinician of the pain consultation diagnosed FM or confirmed a previous diagnosis of FM, with the criteria of the ACR, after exclusion of identifiable causes of chronic widespread pain, such as inflammatory or thyroid diseases for example.

Collected data included demographic characteristics, reasons for current admission, main co-morbidities, history of FM, pain characteristics at the time of the consultation (intensity measured by a 0-100 mm visual analogue or 0-10 points numerical scale; improving or aggravating pain-related factors), associated factors (sleep disturbance, irritable bowel syndrome, tension-type headache, restless legs syndrome), previous and current specific treatment (pharmacological and non pharmacological). Data concerning anxiety and depression assessed by means of a structured interview conducted by a senior clinician of the pain consultation were also available. Other acute or chronic painful conditions were collected. Other recorded data included specific laboratory tests to exclude secondary causes of widespread pain. Functional independence at admission and at discharge was measured by the Functional Independence Measure (FIM). The Functional Independence Measure scale assesses physical and cognitive disability. Scoring items are scored on the level of assistance required for an individual to perform activities of daily living. Possible scores range from 18 to 126, with higher scores indicating more independence (11, 12). Cognitive function was evaluated by the Mini Mental Status Examination (MMSE) (13). Possible scores of the MMSE range from 0 to 30, with higher scores indicating better cognitive function. If available, traumatic events (such as loss of a child, nursing home admission) were noted. As the Geneva University Hospitals are the only public hospital in Geneva, available information about previous or later hospitalisations and/or pain consultations at the hospital were also collected. The study protocol was approved by the local ethics committee.

RESULTS

During the study period, approximately 2000 patients with non-oncological pain were addressed to the pain consultation during their hospital stay. Forty patients (38 women and 2 men) had a diagnosis of FM and were analysed. Thirty-four had the diagnosis of FM before hospitalisation and the diagnosis was confirmed during the hospital stay; the diagnosis of FM was made during the hospitalisation in 6 patients.

The socio-demographic characteristics of these 40 patients are summarised in Table 1. The majority of the patients were widowed (mean 16 ± 10.9 years).

All patients were older than 65 years at the time of the diagnosis of FM. Mean age at the moment of diagnosis of FM was 75 ± 9.1 years. Seven patients had a previous hospitalisation related to FM before 1999. Four patients benefited from a multidisciplinary pain consultation before the present hospitalisation.

Table 1 - Sociodemographic characteristics (40 patients).

| Age (years), mean (SD) | 81 (5.7) |
|------------------------|----------|
| Cultural origin | |
| Switzerland | 25 |
| France | 4 |
| Italy | 6 |
| Other | 5 |
| Marital Status | |
| Single | 3 |
| Married | 7 |
| Divorced | 3 |
| Widowed | 22 |
| Education | |
| Compulsory school | 29 |
| Diploma | 9 |
| University | 2 |
| Living place | |
| Home | 37 |
| Nursing home | 3 |

Main reasons for the hospital admission during the study period were exacerbation of the pain condition related to FM (n=17), falls with or without fracture (n=6), infectious disease (n=8), cardiac disease (n=6) and other (n=3). Admission was not related to FM in twenty-three patients; however, a pain consultation was requested because the intensity of pain or its consequences prevented the discharge of the patient after the resolution of the acute admission problem.

Patients had a high number of co-morbidities (mean 3.5 ± 2.3) with a mean number of prescribed drugs at admission of 11 ± 1.5 (Table 2).

The hospitalisation occurred with a mean of 6 ± 5.2 years after the onset of FM.

Pain characteristics are described in Table 3. Intensity of pain generally increased with mobilisation in 25 patients and decreased with rest in 27 patients and with distraction in 12 patients. Only 2 patients described an improvement

Table 2 - Co-morbidities (40 patients).

| | |
|-----------------------------|----|
| Cardiac disease | 9 |
| Diabetes | 8 |
| High blood pressure | 20 |
| COPD | 6 |
| Hypothyroidism | 5 |
| Overweight (BMI>23) | 13 |
| Cancer | 5 |
| Recent fractures | 3 |
| Dementia | 2 |
| Other neurological diseases | 2 |
| Osteoporosis | 11 |
| Osteoarthritis | 16 |
| Back pain | 8 |

Table 3 - Main pain characteristics (40 patients).

| | |
|-----------------------------------|------------|
| VAS (0-10) (Median (IQR)) | |
| Lowest pain | 6 (2) |
| Highest pain | 9 (4.5) |
| Factors aggravating pain (n) | |
| Mobilisation | 25 |
| Bad mood | 17 |
| Factors alleviating pain (n) | |
| Rest | 27 |
| Distraction | 12 |
| Treatments | 2 |
| Sleep | 5 |
| Complementary therapies | 4 |
| Positive tender points, mean (SD) | 15 (2.7) |
| FIM score (18-126), mean (SD) | |
| At admission | 108 (18.7) |
| At discharge | 115 (14.6) |
| Associated symptoms (n) | |
| Fatigue | 37 |
| Poor sleep quality | 36 |
| Depression | 25 |
| Anxiety | 15 |
| Irritable bowel syndrome | 10 |
| Restless leg syndrome | 3 |
| Tension type headache | 2 |

of pain with prescribed drugs. Mean number of positive tender points was 15 ± 2.7 . Two patients had acute pain secondary to a recent fracture. Sixteen patients had also osteoarthritis of the joints (mainly knee, hip and shoulder); 12 patients had chronic back pain.

Score of the FIM (Mean FIM 108 ± 18.7 at admission and 115 ± 14.6 at discharge) indicated relatively high functional independence of the patients.

Symptoms associated with FM were fatigue and poor sleep quality (n=36), depression (n=25), anxiety (n: 15), irritable bowel syndrome (n=10), restless legs syndrome (n=3) and tension-type headache (n=2). Seventeen patients described an association between their mood and

the intensity of pain. Ten patients had been previously hospitalized at least once for a severe depression in a psychiatric unit. Four patients had opioids or benzodiazepines dependence. Two patients had a diagnosis of dementia, six patients had a Mini Mental Status Examination lower than 24, but they were still able to reliably communicate. Mean MMSE was 26 ± 3.1 .

Laboratory results: complete blood count, erythrocyte sedimentation rate, thyroid function tests, muscle enzymes showed no abnormalities at the discharge of the patients. These results allowed us to exclude secondary causes of widespread pain. However all patients had an impaired renal function (stage 1 and 2).

Mean numbers of prescribed drugs related to FM before and at admission, and at discharge are described in Table 4. Half of the patients had an anti-depressant; opioids were often discontinued during hospitalisation with exacerbation of pain or decrease of functionality of the patient.

Traumatic events: nine patients had lost a child during the last 10 years. Five patients developed FM five years after widowhood. One was widowed six months before the hospital admission. Two patients had experienced conflicts in their nursing homes in the few months before hospitalisation.

Recommendations by the pain consultants were: introduction of antidepressants (n=22), introduction of gabapentine or pregabalin (n=3), discontinuation of opioids (n=6) and of non-steroidal anti-inflammatory drugs (n=2), and no modification of analgesics (n=6).

Non pharmacological measures included education and information (all), psychiatric consultation and behaviour interventions (n=12), relaxation or massage (n=8) and exercise (n=11).

Follow-up informations: 24 patients were discharged home, 13 patients in a nursing home and 3 patients died during the hospital stay (severe cardiac disease).

Table 4 - Prescribed drugs before and at admission, and at discharge (40 patients).

| | Before admission | At admission | At discharge |
|---|------------------|--------------|--------------|
| Antidepressants-tricyclic (TPA) | 8 | 6 | 6 |
| Selective serotonin norepinephrin reuptake inhibitors (SNRIs) | 4 | 4 | 14 |
| Selective serotonin inhibitors | 10 | 14 | 18 |
| Paracetamol (acetaminophen) | 16 | 18 | 18 |
| NSAIDs | 13 | 7 | 4 |
| Tramadol | 25 | 9 | 6 |
| Buprenorphine | 1 | 4 | 5 |
| Morphine | 11 | 5 | 5 |
| Other opioids | 6 | 5 | 5 |
| Pregabalin-gabapentine | 4 | 7 | 8 |
| Clonazepam | 2 | 2 | 1 |

Median length of hospitalisation was 17 days. Fifteen patients were re-admitted in the same hospital with an admission reason related to FM during the study period. Eleven patients benefited from another pain consultation during their hospital stay. Four patients had no more pain complaints during next hospitalisations. Two patients benefited from a multidisciplinary pain consultation. All the patients admitted in nursing homes were not readmitted. Nineteen patients were dead in 2010 (6 at home, 9 at the hospital, and 4 in nursing homes).

DISCUSSION

The detailed analysis of these older hospitalised patients with a diagnosis of FM provides interesting information in order to tailor the management of elderly patients with FM. First, the prevalence of patients with FM addressed to a pain consultation in a geriatric hospital was very low compared to two available prevalence studies in older patients. In the first study, Wolfe, studying 3006 persons in the general population in Wichita, USA, found a prevalence of 2%, the highest prevalence being between the ages of 60 and 79 years (8). In the second study, a recent telephonic survey conducted in France demonstrated that FM prevalence was about 1.4-2.2% in the French community aged over 15 years, and was primarily related to sex and age (7). One explanation could be the difficulty to confirm the diagnosis in elderly patients suffering from musculoskeletal pain, fatigue or sleep disturbances. This could raise the question of an over diagnosis in telephonic studies (patients with diffuse pain secondary to arthritis and fatigue are included as fibromyalgia patients), but also an under diagnosis if physicians have not enough knowledge on the assessment of FM in elderly patients or because symptoms of FM are not identified as relevant enough in a population suffering from various (and sometimes life-threatening) comorbidities (14-16).

Second, age of onset of FM was older than 65 years in our specific population. In the Yunus et al. study, 65% of the 31 included elderly patients was also aged 65 years or older at presentation of symptoms (16). Apart from the difficulties of early detection, another hypothesis could be that older patients with a long-history FM have developed important adaptation to the persistence of their symptoms and do not complain anymore about this syndrome, as described in two follow-up studies (14, 17).

Studies describing the profile of elderly patients with fibromyalgia are rare. As in the two available studies, clinical features of these older patients with FM analysed were very similar to a younger population (15, 16). The first study published before the publication of the ACR criteria had compared 31 elderly patients (>65 years (no mean age available, predominantly females) without another concomitant disease, besides localized osteoarthritis) with 63 younger patients (16). Elderly patients tended to report less anxiety, chronic headaches and their pain symptoms were less af-

ected by mental stress ($p<0.05$) than younger patients. In comparison with our study, the intensity of pain was rather low (mean 2.2 ± 0.5), the number of tender points (15 points included in the criteria used in 1987) was much lower (5.4 ± 3.2), however there are similarities, such as the high percentage of patients with physical fatigue as an aggravating factor and rest as a relieving factor. The second study from Gowin et al., that included consecutively elderly patients who consulted in an ambulatory geriatric clinic, demonstrated that the overall prevalence of fibromyalgia was 9.2% (15). The age and the level of education of the 25 patients with fibromyalgia included were similar to those in our study, but more patients were non-Caucasians. Patients also had a high prevalence of co-morbidities (mean 4.4 ± 2.1) with a high prevalence of hypertension and cardiac disease. In our study more patients received opioids.

We found an important number of patients with associated painful osteoarthritis. The association between osteoarthritis and FM in elderly patients must be further analysed (3).

Depression and anxiety are described up to 40 to 50% of patients with FM (8, 18, 19). In our study, manifestations of depression and anxiety were very common in our group of patients. Actually, 60% of patients were depressed and 37% anxious.

Furthermore, a quarter of the patients were previously hospitalised at least once in a psychiatric unit for severe depression. Even if controversies about the association between a traumatic event and the onset of fibromyalgia exist, we found a high number of patients who had experienced distressing life events, and in particular the loss of a child or of a partner (20-22). Furthermore, the admission into a nursing home seems to be a stressful situation for some patients. Although the design of our study does not allow conclusion on the association between life events and FM onset, traumatic events in the life of elderly FM patients, such as the death of a proxy or nursing home admission should be explored, because they may contribute to current pain and distress. This point emphasizes the role of psychosocial stressors, as well as abnormal biologic responses in the autonomic nervous system and neuroendocrine responses may also contribute to dysfunctional pain processing and the need for a multimodal and multidisciplinary approach also in elderly patients with FM (23).

In our study, 37% of patients were readmitted at least one time, with an admission reason linked to FM. This point emphasizes the difficulties of a subgroup of patients to be managed at home, possibly linked to the high impact of pain on daily living activities and to the social isolation of the patients.

Pharmacological treatment prescribed to this older population was very similar to the drugs prescribed in younger patients. However, special attention should be given to renal function in this population and the dose adjustment of drugs. Finally, it is important to note that all

the non pharmacological approach can be difficult in this population because of cognitive impairment (memory loss, disorientation ...). Indeed in our study, 6 patients had some cognitive impairment detected by the Mini Mental Status and two patients a diagnosis of dementia.

The limitations of this study should be recognized. As with any retrospective study, the results rely on the availability and accuracy of the medical records and thus on existing information that was recorded for reasons other than the study.

CONCLUSIONS

Our study analyzed a specific subgroup of older hospitalised patients with a diagnosis of FM and our results cannot be generalized to older patients with FM in other settings. These results must be completed by a prospective study that will screen elderly patients with diffuse pain in different settings. Furthermore, the association between osteoarthritis and FM needs to be further analysed.

However, this study brought to light some interesting characteristics of elderly patients with FM. In particular, special attention should be given to improve primary care practitioner's knowledge on assessment of FM in elderly patients to improve the detection mainly in patients with severe depression. This is of particular interest when considering that, in elderly patients, the presence of somatic problems more than doubles the prevalence of depression and that the severity of functional impairments significantly increases depressive symptoms in painful elderly patients.

Furthermore, the results of this study also suggest that it may be of importance to take into account psychosocial events also in this older population, as it seems that in at least some of the elderly patients, these events may be related to a late FM onset. This hypothesis also needs to be tested in a prospective study.

These results require further investigation but they hint at the necessity to develop quality improvement initiatives, in particular regarding the identification and the tailored management of these elderly FM patients in order to take into account the psychological dimension.

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