

Sudden Lower Limb Arthralgia/Trauma Triggering Fibromyalgia

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Abstract

Fibromyalgia (FM) is a common systemic disorder characterized by widespread musculoskeletal pain and a generalized reduction in pain threshold. The application of the American College of Rheumatology (ACR) Fibromyalgia classification criteria in 1990 has resulted in increasing recognition of the syndrome. The prevalence of FM in the United States is approximately 2%-4%, of which about 80% are women in the age range of 20 to 60 years.

The cause of fibromyalgia is not clearly identified; however, it is assumed to involve a combination of genetic and environmental factors, with half the risk attributed to each.

Keywords: Fibromyalgia; Widespread pain; Knee; Trauma; Etiology

Introduction

Fibromyalgia (FM) is a common systemic disorder characterized by widespread musculoskeletal pain and a generalized reduction in pain threshold. The application of the American College of Rheumatology (ACR) Fibromyalgia classification criteria in 1990 has resulted in increasing recognition of the syndrome [1]. The prevalence of FM in the United States is approximately 2%-4%, of which about 80% are women in the age range of 20 to 60 years [2].

The cause of fibromyalgia is not clearly identified; however, it is assumed to involve a combination of genetic and environmental factors, with half the risk attributed to each [3].

A total of 25%-50% of fibromyalgia patients (FM) recall an occurrence of physical trauma before the onset of their symptoms by several weeks to several months. Yet, there is still no agreement between experts as to whether physical trauma can result in development of FM. Mechanisms for the etiology and triggering of FM following trauma have not been elaborated sufficiently till now [4].

Case Report

Female patient, 24-years-old, housewife, complaining of generalized bone aches and diffuse pain throughout the body, poorly responding to medications, moderate depression, frequent anxiety, mood swings, short, restless sleep, low back pain, fatigue, attacks of dyspnea with minor effort or pain and inability to perform daily activities regularly, for 7 months duration, with gradual onset and progressive course and additive pattern. Recurrent abdominal discomfort and bloating sensation has been common recently.

The patient gave no other medical history of any problems except for chronic intermittent right knee pains since a sport trauma 10 months ago and recurrent pain and numbness over the shin of tibia. She also had a previous appendectomy and pilonidal sinus surgery.

She gave no clear history of stress or psychological trouble with or before the onset of symptoms except with the occurrence of the sport

injury that caused trauma to her right knee and left mild to moderate local residual symptoms thereafter.

General examination showed moderate pallor and mild varicose veins in both lower limbs. The patient was not obese, BMI 26.7.

Upon MSK examination, the patient indeed showed a WPI score of 7 and a SSS score of 8. Examination of joints was free except the right knee which showed mild swelling, mild tenderness (both around the joint line and infrapatellar, more medially) and crepitation with painful ROM. There was no tenderness or any abnormality over the shin of tibia or any abnormality detected in that area at the time of examination. There was no evidence of arthritis or myositis or other musculoskeletal problems upon examination.

The patient reported recently having some pain and difficulty of walking using the other (left) knee also, it was free upon examination except for mild crepitations.

We noticed that all these generalized symptoms had only appeared following the physical trauma that occurred and inflicted acute symptoms of the right knee. The patient reported not being able to move at that time with severe pain and continuous redness and swelling for several days, she was forced to remain mostly in bed for over a week. Physiotherapy, orthotics and rest helped eliminate the acute symptoms at that time and the patient was advised for surgical intervention which she refused.

She continued on physiotherapy for a few weeks later and continued on the following medications on a recurrent basis until her arrival at our clinic:

Glucosamine sulphate capsules twice daily

Bumadizone calcium semihydrate 110 mg

Topical analgesic anti-inflammatory

She had sought medical advice regarding her systemic symptoms a few months ago and was diagnosed as fibromyalgia back then and was given the following in addition to her knee medications:

Gabapentin 100 mg twice daily

Amytriptyline with varying doses

Celecoxib 200 mg once daily

All of which were of little help.

She presented to us MRI of the right knee performed shortly after the trauma (Figure 1).

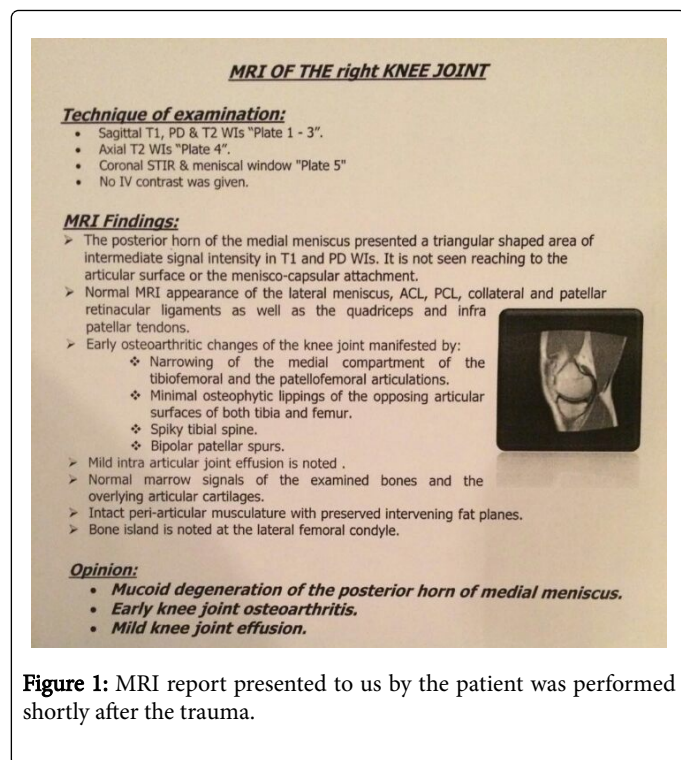


Figure 1: MRI report presented to us by the patient was performed shortly after the trauma.

We asked for some routine labs to be performed and came out as follows:

CBC showed HB: 10.6, RBC count: 3.76, WBC count: 5.4, Platelet count: 275 and relative monocytes.

Normal liver and renal and thyroid functions

Unremarkable urine analysis

Normal serum uric acid

ESR: 35

Serum calcium 8.1

Vitamin D level was 22.6 (insufficient)

The Vitamin D level was probably a result if the patient's significantly low sun exposure by history, but there was no clear explanation for the raised ESR.

The patient was informed of the need for multidisciplinary therapy with the use of drugs, acupuncture, dietary and postural re-education, exercise, yoga and psychotherapy. Gabapentin and celecoxib were withdrawn and she was prescribed Duloxetine 30 mg once daily and Calcium and Vitamin D supplementation. A new physiotherapy program was developed and started for her knee with mild regular exercise. Symptoms were better controlled.

Discussion

The role of physical trauma in precipitating fibromyalgia is uncertain but rheumatologists are frequently asked by their patients or their legal representatives whether trauma could have caused or intensified their disease. Several studies have been concerned with identifying more accurately the etiological or triggering factors for FM. In many cases traumatic incidents were involved, whether psychological, physical or medical.

Table 1 is showing common characteristics of post traumatic FM [5].

Characteristic Features of Post-traumatic Fibromyalgia	
1	There is a discrete injury.
2	Pain spreads beyond the site of injury in a step-wise pattern.
3	Headache, bowel symptoms, paraesthesia's, sleep disturbance subsequently develop as the pain spreads.
4	There is allodynia, hyperesthesia and referred pain.
5	Pain threshold is decreased, but more so over initial pain sites.
6	Pain is worsened by activities.
7	Conventional therapies (Physical therapy, NSAIDs, analgesics) are of limited benefit.

Table 1: Characteristic features of post-traumatic fibromyalgia.

Traumatic experiences that are correlated with fibromyalgia include:
Emotional trauma.

Certain viruses, such as hepatitis C and HIV.

A childhood separation from your mother that lasted longer than six months.

Living through a war.

Unfortunately, not everyone whose fibromyalgia is triggered by trauma will find relief in the same way. Even though many experts link fibromyalgia symptoms to injury that affects the head and neck, traumatic triggers of fibromyalgia can be much more widespread. Any form of trauma or stressful event, such as major surgeries, being sent off to war, severe infections, all trigger fibromyalgia, and most of those are not associated with any spinal trauma [6].

Studies have reported that between 25% and 50% of subjects with FMS recall an event, most often physical trauma, that immediately preceded the onset of their FMS symptoms [7].

Al-Allaf et al. found that fifty three (39%) FMS patients reported significant physical trauma in the 6 months before the onset of their disease, compared with only 36 (24%) of controls (P<0.007). There was no significant difference between FMS patients who had a history of physical trauma and those who did not have physical trauma with regard to age, sex, disease duration, employment status and whether their job at onset was manual [8].

Buskila et al. found that there was indeed such association too and the mean time lapse between the trauma and the onset of FMS was 3.2 ± 1.1 (S.D.) months. However, they found that only one out of 59 adults with lower extremity fractures developed FMS. One criticism of

their study is that the majority of the study group were males, in whom FMS is much less prevalent in general [9].

On the other hand, some experts argument against an association between trauma and FMS, one is that FMS is a psychological condition rather than a physical disease. Another argument is that other factors, such as personality, attitudes, psychological health and litigation, are more important than trauma in determining the development of chronic symptoms after an acute injury [10].

Conclusion

Although a very likely association between fibromyalgia and lower limb physical trauma with evident residual symptoms has been suspected in this case study, there is still limited evidence either to support or deny this. The concept of there being an incompletely treated trauma and in the lower limbs in particular has not been specifically addressed much but we demonstrate it is a possibility. Presence of unspecified psychological stress developing as a result of the persistence of suffering from the affected knee is also a legitimate potential risk factor for the FM development. Better information about FM causation will be important for better understanding of risk factors and etiology, secondary prevention and early intervention.

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