

## **LOW CONCENTRATIONS OF VITAMIN D COULD INCREASE PAIN IN PATIENTS WITH FIBROMYALGIA REFRACTORY TO CONVENTIONAL TREATMENT.**

M. C. Latorre<sup>1,\*</sup>, A. Iglesias<sup>2</sup>

<sup>1</sup>Rheumatology , Medical center CALLE 91, <sup>2</sup>Rheumatology , Universidad Nacional de Colombia , Bogotá, Colombia

**Background:** Recently papers have been published that show fibromyalgia patients with low vitamin D concentrations are feeling fatigued, depressed and suffering from severe pain. Our research suggests that patients with fibromyalgia may have refractory pain that could be associated with vitamin D deficiency.

**Objective:** To describe the association between low concentrations of vitamin D and refractory pain in patients with fibromyalgia and to document their response to treatment with vitamin D

**Methods:** We researched adult patients with fibromyalgia (ACR criteria, 1990) and recruited during routine visits, between May 2009 and August 2010. These patients had previously received conventional treatment without any improvement. We evaluated in all patients: levels of vitamin D (electroquimioluminescence), calcium, phosphorus and PTH. We excluded patients with all other diseases. We started their treatment with vitamin D3 in doses of 2000 U per day orally (PO) and only authorized analgesic treatment. We evaluated the results using a visual analogue scale of pain (0-100) and monitored tender points comparing these results to their baseline every 2 months.

**Results:** We enrolled 39 patients, all female, with an average age of 36.6 years old (ranging from 23 to 47 years). These patients were all sufferers of the disease for an average duration of 5 years. They had previously received treatment with a number of different drugs, with no improvement (see table 1). In all cases they had been investigated for various other associated diseases. We found vitamin D levels between 7 to 21 ng/ml (media 12.6 ng/ml) (RV 30-100 ng/dl) associated with a low dietary intake of vitamin D and little exposure to natural sunlight. We could not find any other associated factors that could explain the vitamin D deficiency. Levels of calcium, phosphorus and PTH in these patients were normal.

In the 10 months following, on average, 76.92% (30/39) of patients had shown an improvement in their visual analog scale of pain (0-100). Initially, they had an average of 98/100 and after the last consultation as low as 20/100. The tender points also decreased on average from 16/18 to 6/18. Of all the patients taking a supplementation of vitamin D3 (2000 U per day PO), 28 had improved levels of vitamin D after 6 months, with 8 patients showing an improvement after 10 months. There were 3 patients who showed improved levels of vitamin D, but didn't reach expected levels for the test. This was because they didn't take the medication as they had a gastric intolerance to the oral supplements.

Table 1. General Characteristics of population

	n= 39
Age (media)	36.6 y
Female/male	39/0
Duration of disease ( media)	5.5 years
Treatments previous	
NSAIDs	38
Amitriptyline	20
Cyclobenzaprine	6
Trazodone	24
Pregabalin	18
Complementary Medicine	25
Vitamin D levels ( media)	12.6 ng/ml

**Conclusions:** In this research we found that patients with fibromyalgia who also had a low concentration of vitamin D showed increased muscle pain. This pain was decreased in patients who took vitamin D supplements. Out of the patients tested 76.92% of them showed some form of improvement using the supplements. Therefore, we propose that this test should be included in the study for refractory patients with fibromyalgia. We also believe that this test needs to be conducted on a larger scale to further confirm these results.