**VITAMIN D LEVELS IN PATIENTS WITH DIFFERENT RHEUMATIC DISEASES AND ASSOCIATED MUSCULOSKELETAL PAINS**

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**Background:** Vitamin D deficiency is associated with nonspecific symptoms, like muscle pain and weakness. In many cases low vitamin D level are completely asymptomatic. There are only a few literature reports bringing evidence of vitamin D deficiency in different rheumatic diseases (1,2).
**Objectives:** Our study aimed to reveal if there is any correlation between the presence of widespread musculoskeletal pains and the vitamin D levels in patients seen in the department of rheumatology, in condition of normal calcium and phosphorus serum levels.
**Methods:** This is a retrospective non-interventional study analyzing the blood test results from 113 consecutive patients with different rheumatic diseases who presented in the outpatient clinics. Vitamin D level results were measured in nmol/l. T-test was used for statistical analysis and p<0.05 was considered significant.
**Results:** We evaluated 85 females with the mean age 56.6±16 years and 28 males with the mean age 61±16.8 years, who have been seen in our out-patient clinics in 2010. There were 57 patients with widespread musculoskeletal pains, from which 28 fulfilled the clinical criteria for fibromyalgia, 29 chronic inflammatory arthritis, 42 with symptoms of osteoarthritis, 5 with polymyalgia rheumatica, 2 with osteoporosis under treatment with 800 IU vit D daily and 7 with connective tissue diseases or vasculitis. The majority of patients were of Caucasian origin, apart from one man and 3 women who were Asian. The mean vitamin D levels were 59.2±24 nmol/l for the female group and 51±23 nmol/l in the male group, being statistically different at p<0.05.
We analyzed comparatively the largest groups of patients: the group with widespread pains (n=57), the inflammatory arthritis group (n=29) and the patients with osteoarthritis (n=42). The results showed statistically significant lower vitamin D levels in the widespread pain group when compared with inflammatory arthritis (52.7±18 nmol/l vs. 63.7±21) at p<0.05. There was no statistical difference between the vitamin D levels between the osteoarthritis and inflammatory arthritis groups (61±19 vs. 64.8±21, p=0.29). The lowest concentrations of the vitamin D (below 20 nmol/l) were identified in 7 women (5 with widespread pains and two with polymyalgia rheumatica, all Caucasians) and 4 men, both with widespread pains.
**Conclusions:** In our randomly selected population (according to their consecutive presentation in our clinics) with musculoskeletal pains associated or not with other rheumatic diseases, the prevalence of vitamin D deficiency was 37.6%, without significant difference between men and women. There was a positive correlation between the presence of chronic pains and the lowest levels of vitamin D found in our group. Our results suggest that chronic pains in the absence of rheumatic abnormalities could be associated with lower vitamin D levels despite the normal serum calcium levels.
**References:**

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