

Abstract

Clin Exp Rheumatol. 2010 Sep-Oct;28(5):745-7.

Relationships among vitamin D, disease activity, pain and disability in rheumatoid arthritis.

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BACKGROUND AND OBJECTIVES: Vitamin D is a steroid hormone with important skeletal and non-skeletal biologic functions. Vitamin D deficiency is common and manifests with musculoskeletal symptoms. In rheumatoid arthritis (RA), vitamin D deficiency may be associated with increased disease activity and disability. We aimed to estimate the relationship between Vitamin D level and disease activity, pain, and disability in RA.

METHODS: Data were drawn from 62 RA patients seen in an academic arthritis clinic. 25(OH)D levels were evaluated along with markers of RA disease activity, physician and patient global assessments, pain (VAS) and HAQ. DAS-28 was calculated. Vitamin D deficiency was defined as 25(OH)D levels < 30 ng/ml.

RESULTS: Sixty-one percent of RA patients were classified as vitamin D deficient. In patients with active RA (DAS 28 score ≥ 2.6), 25(OH)D was moderately and inversely associated with DAS 28 (-0.38), pain (-0.49) and HAQ (-0.54) ($p < 0.01$). However, no significant associations were found between 25(OH)D and these variables in patients in remission (DAS 28 < 2.6). Vitamin D deficient patients with active RA had six times the odds (OR=6.0, 95% CI 1.2-31.2) of being moderately or severely disabled (HAQ ≥ 1.25).

CONCLUSIONS: Vitamin D deficiency was common in this RA group. In patients with moderate to high disease activity, vitamin D deficiency was associated with higher DAS scores, pain and disability. Clinicians in northern climates may wish to monitor vitamin D status in their RA patients.

PMID: 20883640