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FRI0686

RELATIONSHIP BETWEEN VITAMIN D SUPPLEMENTATION AND MUSCULAR STRENGTH IN ELDEST POPULATION. A SISTEMATIC REVIEW

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Background: Sarcopenia is the loss of skeletal muscle mass, strength and function that occurs as a consequence of aging. This condition result in physical disability, which limits the capacity to walk, increases the risk of falls and osteoporotic fractures. Several studies suggested an inverse relation between 25OHD serum levels, muscular strength and physical performance in the eldest.

Objectives: To evaluate if vitamin D supplementation in patients > 50 years improves muscle mass, strength and performance in older patients.

Methods: We performed a systematic review through Medline, Cochrane Library, and EMBASE. Inclusion criteria: 1) patients > 50 years old, 2) receiving treatment with vitamin D 3) muscle mass and muscle strength measurements 4) systematic reviews (SR) 5) randomized clinical trials (RCT) 6) Papers written in English or Spanish.

Results: Five studies were included (4 SR and 1 RCT), n patients ranged from 121 to 5615. Patients mean age oscillated between 58-88 years, receiving variable vitamin D dose. Follow-up period fluctuated from 6 to 12 months.

Author	Nº clinical studies-patients	Results
Beaudart 2014 SR	N=30(CS) n=5.615	Significant increment in patients with 25OHD < 30nmol/L and > 65 years. Muscular strength SMD 0.17 (P=0.02)
Muir 2011 SR	N=13(CS) n=2.268	Significant improvement with vitamin D supplementation in: 1-Postural balance reduction DME -0.20 (IC95% -0.39 a -0.01, P=0.04, I2 = 0%) 2-Reduction in time to finish the test TUG -0.19 (IC95% -0.35 a -0.02, P=0.03, I2 = 0%)
Beaudart 2017 SR	N=2 (CS) n=121	No additional effect of vitamin D, except for TUG (n=1)
Stockton 2011 SR	N=17(CS) n=5.072	Patients with serum 25(OH)D <25 nmol/L caused significant improvement in hip muscular strength with vit D supplementation (DME 3.52, IC95% 2.18, 4.85).(n=2)
Cangussu 2015 RCT	N=160	Significant increment in vitamin D group. Muscular strength (chair test) 25.3% (p <0.0001)

CS= Clinical studies, SR=Systematic reviews, RCT=Randomized clinical trials, SMD=Standardized mean difference, TUG= Time UP and Go.

Conclusion: • Vitamin D supplementation in patients > 65 years with inadequate 25OHD serum levels, improve muscular strength.

• There were no benefits in muscle mass or muscular performance.

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NEUROMYELITIS SPECTRUM DISORDERS ASSOCIATED WITH AUTOIMMUNE DISEASES: DIFFERENCES IN CLINICAL CHARACTERISTICS AND MRI FINDINGS

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Background: Neuromyelitis Optica Spectrum disorders (NMOSD) is a rare autoimmune disease characterized by optic neuritis (ON) and/or longitudinal extensive transverse myelitis (LETM). It is commonly associated with other autoimmune diseases (OAD). Recent reports suggested racial differences in clinical phenotype and presentation of NMOSD. However, data on Black population is scarce.

Objectives: We aim to characterize, in our largely Black population, the clinical, laboratory and radiologic features of patients with NMOSD and OAD. We also aim to ascertain differences in clinical presentation between NMOSD patients with and without OAD.

Methods: In a retrospective analysis, patients ≥ 18 years of age with a confirmed diagnosis of NMOSD as per the International Panel for NMOSD Diagnosis Criteria, seen at 2 NYC urban hospitals from 1/2005 to 4/2017 were identified. Demographic, clinical, and laboratory data were extracted together with expanded disability status scales (EDDS) and imaging studies. Brain magnetic resonance imaging (MRI) was reviewed by a neuro-radiologist who applied the NMOSD Radiological criteria to identify typical findings of the disease.

Results: Forty-one patients fulfilled NMOSD criteria. 85.4% were women with a mean age of 44.7±2.03 years. 82.9% of the patients were Black and 34.1% (14/41) had an associated OAD. Systemic lupus erythematosus (SLE) was the most common OAD present prior to NMOSD diagnosis, followed by thyroid disease and Sjogren's syndrome. Aquaporin 4 immunoglobulin G (AQP4IgG) was positive in 82.9% of the entire cohort and in 76.9% (10/13) of patients with NMOSD and OAD. Hypertension (33.3% vs. 15.3%), and cardiovascular disease (13.3% vs. 4%) were more frequent in NMOSD with OAD, compared with the NMOSD only group. On initial presentation of the NMOSD only group, visual changes (40% vs. 28.5%) and ON (38.4% vs. 20%) were predominant. In the initial presentation of NMOSD with OAD group, sensory loss (78.5% vs. 57.7%), acute myelitis (40% vs. 23.1%), and elevated C reactive protein (CRP) (20.85±11.2 vs. 3.2±1.85mg/d/L) were more frequent. Disability scores (EDDS) were 5.5 for each group. Brain MRI revealed lesions affecting corpus callosum in a marble pattern, (21.4% vs. 13.6%), the hemispheres in a spindle like pattern (33% vs. 22.7%), the dorsal medulla (50% vs. 39.1%), the area postrema (38.5% vs. 27.3%) and the pons (21.4% vs. 13.4%) for NMOSD with OAD and without respectively. LETM with predilection for the thoracic region was (66.7% vs. 54.5%), cord edema (69.2% vs. 40.9%) and gadolinium enhancement (69.2% vs. 59.1%) for NMOSD with OAD and NMOSD only patients respectively.

Conclusion: AQP4IgG-positivity was observed in most of the cases in our predominantly Black NMOSD population. Over a third of the NMOSD patients had OAD. SLE was the most commonly reported. NMOSD with OAD patients tended to present with sensory loss, acute myelitis, and elevated CRP, while in NMOSD without OAD presented more with visual changes and ON. The NMOSD with OAD group had more MRI lesions involving corpus callosum, hemispheres, brainstem and LETM, compared to those with NMOSD only group.

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