

Osteoporosis is a frequently encountered medical issue in practice. Several studies in patients with multiple sclerosis (MS) have shown a lower Bone Mineral Density (BMD) when compared to their age matched healthy controls; nonetheless, it has been found to be prevalent in patients with MS and contributes to both morbidity and mortality in this population. We aimed to determine if MS patients are screened and managed for osteoporosis at our facility.

A retrospective chart review of 28 patients between the ages of 45-70 years was conducted. Data collected included gender, MS type, mobility status, falls risk, history of glucocorticoid, smoking and alcohol use and lastly supporting radio graphic evidence; such as x-rays or BMD scan. Other data gathered included Vitamin D level, calcium supplementation and agents used for osteoporosis treatment.

Our cohort was comprised of 26 patients with either primary or secondary progressive MS; 24 of which were Emiratis and the remaining 2 were Arab non-nationals. Falls risk was significant in 19 patients. Wheel chair dependency was found in 10 patients and 7 had limited overall mobility.

All patients were supplemented with Vitamin D. However, only 8 had at least one course of IV Glucocorticoids. BMD scan was performed on 8 patients. Eight patients were diagnosed with Osteopenia/Osteoporosis, out of which 3 were treated with bisphosphonates. Two patients had X-Ray evidence of fractures.

Our findings show limited active participation by neurologists and physicians in general regarding the bone health of this cohort of MS patients. One major limitation of our study is that many of our patients are seen at multiple facilities, which may skew our findings towards the null. In conclusion, we propose that all MS patients should undergo a yearly structured and thorough bone health risk factor evaluation and be treated accordingly.

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Ultraviolet B Radiation Therapy Versus Vitamin D3 Supplementation: Effects on Cognitive Functions and Fatigue in Egyptian Relapsing Remitting Multiple Sclerosis Patients

Alaa Elmazny¹, Asmaa Ibrahim¹, Hatem Shehata¹, Nevin Shalaby¹, Eman Magdy², Hadeel Mohamed¹, Shimaa Essa³, Maged Abdel-Nasser¹

¹ *Cairo University, Cairo, Egypt*

² *Agouza Oolice hospital, Cairo, Egypt*

³ *Health Insurance Organisation, Cairo, Egypt*

Vitamin D independent benefits of ultraviolet B radiation therapy has been previously outlined. The current work aimed to compare the impact of Broadband ultraviolet B radiation (BB-UVB) therapy to vitamin D3 supplementation on cognitive functions and fatigue in relapsing remitting multiple sclerosis (RRMS) patients.

Randomized controlled trial conducted on 40 RRMS patients attending the Kasr Al Ainy hospital multiple sclerosis clinic. Patients were assigned into two equal groups receiving either BB-UVB radiation (3 sessions/week for 4 weeks) or oral vitamin D3 (weekly 50,000 IU for 3 months). Comprehensive cognitive battery [Montreal Cognitive Assessment (MoCA), Symbol Digit Modalities Test (SDMT) and Brief Visuospatial Memory Test-Revised (BVM-T-R)], Fatigue Severity Scale (FSS) and serum vitamin D3 levels were done at baseline and 3 months following either treatments.

Baseline vitamin D3 levels and scores of fatigue and cognitive scales were comparable in both groups. Median scores of MoCA, SDMT, BVM-T-R and FSS pre and post BB-UVB treatment were [27 (3.0)] vs 28.5 (2.0), 33.5 (9.8) vs 37 (10.5), 24 (11.7) vs 32 (6) and 4.4 (1.6) vs 3.2 (2.5)], p-value (<0.001, <0.001 <0.001 and <0.001) respectively, and the median scores pre and post vitamin D3 were [26.0 (2.8) vs 28.0

(2.0), 29.5 (8.3) vs 35.0 (5.0), 27.0 (9.0) vs 31.0 (5.0) and 4.1 (1.0) vs 3.2 (1.2), p-values (<0.001, <0.001 <0.001 and <0.001) respectively. No statistically significant difference was found when comparing both groups post therapies vitamin D3 levels, MoCA, SDMT, BVM-T-R and FSS scores (p= 0.512, p= 0.355, p= 0.779, p= 0.620 and p= 0.758).

Both BB-UVB therapy and oral vitamin D3 supplementation are equally effective in improving cognition and fatigue in RRMS patients.

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Patterns of Complementary and Alternative Medicine Use Among Adult Patients with Multiple Sclerosis: A Cross-Sectional Study

Muhannad Abdulaziz Alnahdi, Abdullah Alsulayhim, Ahmed Bin Selim, Dr. Emad Masuadi, Dr. Yaser Almalik

College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

Multiple sclerosis (MS) is a chronic autoimmune disease that causes demyelination of the central nervous system. No treatment has shown to be completely effective, thus, the tendency for patients with MS to use non-conventional therapies like Complementary and Alternative Medicine (CAM) might increase. The study aims to explore the pattern of CAM use among patients with MS at a tertiary health care center in Saudi Arabia.

This is a questionnaire-based observational cross-sectional study that targeted adult patients diagnosed with MS at a tertiary care center, Riyadh, Saudi Arabia. The study sample size was 176 patients, and consecutive non-probability sampling technique was used to approach them during their appointments. An Arabic validated questionnaire was used to evaluate patients' use of CAM.

The mean age was 34.6 ± 10.9 years, and the majority of patients were females. Eighty-nine percent of the participants reported using CAM at least once. Praying was the most frequent modality (60%), followed by supplication (59%), Ruqia (52%), and vitamins (44%). Symptomatic improvement was reported by 49 (27.8%) of complementary medicine users and 81 (46%) of alternative medicine users.

The study found a high prevalence of CAM utilization among Saudi adult patients with MS exceeding internationally reported rates. Although some patients described some improvement in their symptoms, further research is needed to evaluate the effectiveness of CAM.

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B Cell Over Population Following Alemtuzumab Therapy in a Multiple Sclerosis Patient

Shaima Nasser Al Mashgari, Ahmed Shatila, Sudhir Kumar Palat Chirakkara

Mafraq Hospital, Abu Dhabi, United Arab Emirates

Alemtuzumab is an anti-CD52 monoclonal antibody therapy for relapsing remitting multiple sclerosis (RRMS), which depletes T and B-lymphocytes resulting in their reduction and subsequent repopulation. It decreased relapses compared to interferon beta-1a in clinical trials. However incidence in causing B-cell autoimmunity and hyper-proliferation has not extensively described for CNS involvement.

We report on a 24-year-old female diagnosed with RRMS since 2011 following multiple episodes of optic neuritis and hand tremors. She was started on Natalizumab from an outside facility but developed a relapse. Hence Alemtuzumab was recommended due to fact that

patient experienced relapses on natalizumab. After the pre-workup of Alemtuzumab, patient received her first course in February 2017, and second course in March 2018 with no complications. She had unremarkable monthly follow-up.

Eight months after the second course, patient developed confusion and pseudobulbar symptoms. MRI brain with contrast showed more than 15 new gadolinium-enhancing lesions in the left frontal lobe. 5-days course of methylprednisolone was given to suppress the inflammation.

The differentials at that time were listeria infection, PML, or other opportunistic infection, Tuberculosis, Varicella, Listeria, fungal, HSV. Lumbar Puncture showed clear cerebro-spinal fluid with mildly elevated protein. CSF test for HSV, TB, varicella and listeria were negative. Flow cytometry analysis showed low lymphocytes, depleted CD3 cells and CD4 of T cells, and B cells within normal range. Ocrelizumab was administered on May 2019. The patient has been stable since initiating ocrelizumab with no further relapses or deterioration.

This case describes a rare but potentially new complication of alemtuzumab, which maybe due to B-cell hyper- population.

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Prevalence and Incidence Rates of Multiple Sclerosis in Lebanon

Maya Zeineddine^{1,2}, Amal Al Hajje², Nabil El Ayoubi¹, Wael Hanna³, Bassem Yamout¹

¹ American University of Beirut Medical Center, Beirut, Lebanon

² Lebanese University, Beirut, Lebanon

³ American University of Beirut, Beirut, Lebanon

The prevalence of multiple sclerosis (MS) has been assessed in many countries of the Middle East mostly in Kuwait, Jordan,

Saudi Arabia, Oman, Lybia, Tunisia, Iraq and the United Arab Emirates. The prevalence of MS in Lebanon however, is still unknown mainly due to lack of national registries. Based on the Kurtzke classification, Lebanon is located in a low-risk zone for MS.

To determine the incidence and prevalence of MS in Lebanon based on a 2018 population census.

Lebanese patients diagnosed with MS between January 2018 and December 2018 were identified using the database of the Ministry of Public Health (MOPH), National Social Security Fund (NSSF), Lebanese Army, Cooperative of Government Employees (COOP), Internal Security Forces, and Lebanese General Security based on the reimbursement of disease-modifying therapies (DMTs) by these governmental third-party payers. Nearly all patients with MS in Lebanon receive their therapies through one of these governmental institutions. The crude, age- and sex-specific 2018 prevalence and incidence rates among Lebanese patients were calculated.

2248 MS patients were identified of whom 1454 (67.1%) were females and 712 (32.9%) males (female: male ratio 2:1) with a mean age of 41.8 ± 12.96 years. The 2018 prevalence rate of MS was 62.91 cases per 100,000 persons (95% CI: 60.41 - 65.41). The pediatric prevalence of MS was 2.23 per 100,000 (95% CI: 1.41- 3.05). There was a peak in prevalence rate among patients aged 35-44 years. The overall incidence rate of MS in Lebanon was 8.36 cases per 100,000 (95% CI: 7.45 - 9.27), representing 324 newly diagnosed patients in 2018. The mean age at onset of MS was 34.5 ± 12.5 years.

This is the first study to assess the prevalence and incidence rates of MS in Lebanon, confirming that Lebanon is a moderate to high-risk area for MS. Those high rates are commensurate with the recently published studies from the Middle East, pointing to a significant rise in the incidence and prevalence of this disease in our region.

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