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The effectiveness of prolonged course of high dose vitamin D replacement in the older person

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Background: Vitamin D deficiency is a significant problem especially in the older population. Studies implicate its role in immunomodulation, cardiovascular disease, cancer and bone health. Vitamin D deficiency increases risks of falls and osteoporotic fractures impacting on quality of life. An audit of our current practice showed that a short two-week course of vitamin D replacement is convenient and effective. However, in those with severely depleted vitamin D stores a longer period of intense vitamin D replacement maybe required. We re-audited our results with an increased length of treatment of three-weeks.

Methods: Elderly patients >65 years with severe vitamin D deficiency (<20nmol/L) attending Princess Royal University Hospital were prescribed a three-week course of ergocalciferol 50,000 IU/day, followed by daily maintenance dose of calcium/vitamin D (1.5mg/400IU). Baseline vitamin D and renal functions were taken and rechecked at least 4 weeks after start of treatment. Patients with stage 4 chronic kidney disease were excluded.

Results: In total 58 patients were included, with 34 complete sets of data, 24 were lost to follow up. The average age was 83 years with 62% females. The median pre-treatment vitamin D level was 10.5 nmol/L with eGFR 64mL/min. Following three weeks treatment all patients showed improvement in serum vitamin D level with 68% reaching normal (>80nmol/L) vitamin D levels, and the remainder 32% improving to levels within the insufficiency range (40 – 80 nmol/L), Figure 1. Importantly all patients (100%) reached vitamin D levels above deficiency (>40). The median change was 956%. No side effects or toxicity were reported.

Conclusions: An intense three-week course of ergocalciferol appears to be a safe and effective way of replacing severe vitamin D deficiency which is in contrast to the current guidelines. A shorter duration of treatment should improve compliance and allow the benefits of treatment to be gained quicker.

Biography

Nan Ma, MB Bchir, MRCP is a specialty registrar in geriatrics and is a member of the Royal College of Physicians. She graduated medical school from Downing College, University of Cambridge in 2011, and is undertaking her training in general internal medicine and geriatrics at the Kings College Hospitals NHS Trust in London. She has also gained certification by ECFMG to allow her the opportunity to further her training within the US in the future. Nan has always had an interest in research and her current interest in bone health in the elderly population has allowed her to continue to seek opportunities and develop her skills and knowledge of research alongside her clinical work.

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