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Poster Presentation

Statin and Vitamin D as a Prophylactic Medication for Migraine

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Abstract

Migraine is a primary headache disorder that is characterized by severe headaches and impairment of autonomic nervous system function. This neurovascular disorder ranks as the eighth cause of disability in the world. Migraine is basically an inflammation problem caused by activation of the trigeminal neurovascular complex. Neuropeptides like serotonin, calcitonin gene-related peptide (CGRP) and NO that release from trigeminal fibers cause neurogenic inflammation. Migraine patients usually use abortive drugs for interrupting attacks and prophylactic drugs for preventing. Anticonvulsants, beta blockers, and tricyclic antidepressants are commonly used as prophylactic medications. Although their effects have been proven, they have significant side effects. Therefore, trying to discover new drugs is required. Statin and vitamin D have immunomodulatory effects and also are effective in reducing pain. Statin that is known to be a cholesterol-lowering agent also have cholesterol-dependent effects. Many of these pleiotropic effects are probably applied by inhibiting of isoprenoids which are involved in intracellular signaling pathways. Statin with improving endothelial dysfunction can reduce the risk of vascular disease in these individuals. Regarding vitamin D status, statin has different effects on migraine. This way in people with higher levels of vitamin D is significantly linked to lower prevalence of migraine. Vitamin D supplements can reduce inflammatory factors but there is no evidence that there is a relationship between vitamin D deficiency and migraine. According to the studies reviewed, this way is effective in reducing the period of migraine, the dose of abortive drugs and duration of taking them. No serious side effects have been observed for this medication. Therefore, statin and vitamin D due to their anti-immunomodulatory effect can be s tudied as a prophylactic treatment for migraine.

Keywords: Migraine, Inflammation, Statin, Vitamin D, Prophylaxis, Immunomodulation

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