Therapeutic role of Vitamin B12 in patients of chronic tinnitus: A pilot study.

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OBJECTIVE: True tinnitus is a phantom auditory perception arising from a source or trigger in the cochlea, brainstem, or at higher centers and has no detectable acoustic generator. The most accepted is the famous neurophysiologic model of Jastreboff, which stresses that tinnitus, is a subcortical perception and results from the processing of weak neural activity in the periphery. The aim of this study is to determine the role of Vitamin B12 in treatment of chronic tinnitus.

METHODS: In this randomized, double-blind pilot study, total 40 patients were enrolled, of which 20 in Group A (cases) received intramuscular therapy of 1 ml Vitamin B12 (2500 mcg) weekly for a period of 6 weeks and Group B (20) patients received placebo isotonic saline 01 ml intramuscular. The patients were subjected to Vitamin B12 assay and audiometry pre- and post-therapy.

RESULTS: Of the total patients of tinnitus, 17 were Vitamin B12 deficient that is 42.5% showed deficiency when the normal levels were considered to be 250 pg/ml. A paired t-test showed that in Group A, patients with Vitamin B12 deficiency showed significant improvement in mean tinnitus severity index score and visual analog scale (VAS) after Vitamin B12 therapy.

CONCLUSIONS: This pilot study highlights the significant prevalence of Vitamin B12 deficiency in North Indian population and improvement in tinnitus severity scores and VAS in cobalamin-deficient patients receiving intramuscular Vitamin B12 weekly for 6 weeks further provides a link between cobalamin deficiency and tinnitus thereby suggestive of a therapeutic role of B12 in cobalamin-deficient patients of tinnitus.

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