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**File: ■ Korean Red Ginseng (*Panax ginseng*, Araliaceae)
■ Chronic Tinnitus
■ Quality of Life**

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RE: Adequate Red Ginseng Dose Improves Chronic Tinnitus and Associated Mental Wellbeing

Kim TS, Lee HS, Chung JW. The effect of Korean red ginseng on symptoms and quality of life in chronic tinnitus: A randomized, open-label pilot study. *J Audiol Otol.* 2015;19(2):85-90.

Tinnitus is a ringing or noise in the ear without external auditory stimuli and affects approximately 1 in 7 adults. Tinnitus is often a symptom of other medical conditions. Idiopathic tinnitus – having an unknown origin – may be caused by oxidative stress. In particular, inner ear cell damage can be caused by reactive oxygen species (ROS). Hence, oral antioxidants may help with tinnitus. Korean red ginseng (*Panax ginseng*, Araliaceae) root extract has antioxidant and anti-apoptotic activity when protecting auditory cells from cisplatin toxicity. Red ginseng refers to root that is dried after steaming; it may have different effects than fresh ginseng. The purpose of this randomized, open-label, controlled study was to evaluate the effect of Korean red ginseng on symptoms and quality of life of patients with chronic tinnitus.

Patients (n = 61, aged ≥ 20 years) with unilateral or bilateral tinnitus for > 6 months participated in this study conducted at Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea. After initial clinical history and physical examinations, patients were excluded if they had a history of psychiatric or neurologic disease; middle ear, inner ear, or retrocochlear ear disease; chronic renal or liver disease; other life-threatening illnesses; or were taking other drugs during the study. For 4 weeks, patients received either 160 mg/day ginkgo (Ginexin®; SK Chemicals; Seoul, South Korea; *Ginkgo biloba*, Ginkgoaceae) leaf extract, 1500 mg/day Korean red ginseng (Korea Tobacco and Ginseng Corporation; Daejeon, South Korea) root extract, or 3000 mg/day Korean red ginseng root extract. At baseline and study end, patients underwent blood laboratory evaluation (complete blood count [CBC], chemicals, and electrolytes), audiological evaluation (pure tone audiometry, speech audiometry, tympanometry, and an auditory brainstem evoked response test), tinnitus evaluation (tinnitus handicap inventory [THI] and visual analogue scale [VAS]), and quality-of-life (Short Form-36 Health Survey [SF-36] questionnaire) evaluation.

Age, gender, mean hearing level, duration of tinnitus, and quality of life were not significantly different among groups. Laboratory blood values were normal throughout the study except for 1 patient with diabetes in the 3000 mg/day Korean red ginseng group ($P < 0.05$). The patient had a rise in glucose, which was not attributed to treatment. The patient was discontinued from the study, and another in the 1500 mg/day Korean red ginseng group withdrew for no specified reason. There were no serious adverse events, and all treatments were considered "generally safe."

THI scores improved in all groups; however, only the 3000 mg/day Korean red ginseng group had a significant improvement from baseline ($P < 0.05$). VAS scores improved in all groups, but the change from baseline was not statistically significant. Only the 3000 mg/day Korean red ginseng group had a significant improvement in the quality-of-life measures of "role emotional" ($P < 0.05$) and "mental health" ($P < 0.05$). There were no other improvements in quality-of-life categories. There was no improvement in hearing.

According to the authors, this is the first study to evaluate Korean red ginseng for the treatment of tinnitus. The authors conclude that based on the quality-of-life and THI data, 3000 mg/day Korean red ginseng had a significant benefit for people with chronic tinnitus. The authors chose ginkgo as the positive control because there are several studies that demonstrate its efficacy for treating tinnitus. However, there are also other studies that show that it has no effect; thus, a limitation of the study was the use of ginkgo as the control. Another limitation of this study is that it was open label. Koreans associate Korean red ginseng with promoting good health, so, there could have been a strong placebo effect. It is unclear why the authors chose an open-label design even though the study was randomized.

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—*Heather S. Oliff, PhD*

Referenced article can be accessed at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4582451/>.

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