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Decreased copper and zinc in sera of Chinese vitiligo patients: a meta-analysis

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Abstract

Abnormalities of copper (Cu) and zinc (Zn) are involved in the etiology and pathogenesis of vitiligo. However, controversial results exist now on Cu and Zn in serum of vitiligo patients. The purpose of this study is to compare the serum levels of Cu and Zn between vitiligo patients and healthy controls. In the meta-analysis, 16 studies with a total of 891 vitiligo cases and 1682 healthy controls were included. The levels of serum Cu and Zn were compared between groups of case and control. The serum levels of Cu were significantly lower in vitiligo patients than in healthy controls ($Z = 4.04$, $P < 0.0001$; standardized mean difference [SMD], -0.9 ; 95% confidence interval [CI], -1.34 to -0.47). The levels of serum Zn were also significantly lower in vitiligo patients than in healthy controls ($Z = 4.88$, $P < 0.00001$; SMD, -1.09 ; 95% CI, -1.51 to -0.64). These results demonstrate that decreased levels of serum Cu and Zn are generally present in Chinese vitiligo patients. This may offer support for clinical administration of oral Cu and Zn supplements.

Keywords: copper; meta-analysis; vitiligo; zinc.

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