Chromium picolinate may favorably influence the vascular risk associated with smoking by combating cortisol-induced insulin resistance.


Source

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Abstract

Smoking promotes insulin resistance and other features - excepting hypertension - of the insulin resistance syndrome; these effects appear to reflect chronic nicotine exposure. The adverse impact of smoking on insulin function may be a prominent mediator of the excess vascular risk associated with smoking. Although the mechanistic basis of nicotine-induced insulin resistance remains to be clarified, increased secretion of ACTH and cortisol seems likely to play an important role in this regard. It is therefore intriguing to note that supplemental chromium picolinate has been reported to have a rapid and substantial favorable impact on glycemic control in patients with corticosteroid-induced diabetes. In dexamethasone-treated rats, high doses of this compound have been shown to markedly improve insulin sensitivity. Thus, if these initial reports are confirmable, ample intakes of bioactive chromium may have the potential to reverse the negative influence of corticosteroids on insulin signaling. Such an effect might have utility not only for smokers, but for others in whom chronic up-regulation of the hypothalamic-pituitary-adrenal axis compromises vascular health. The impact of chromium picolinate on smoking- or nicotine-induced insulin resistance merits study.

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