

Chapter 4

Ginseng and Male Sexual Behavior

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Abstract Ginseng is widely used in Asian countries as a tonic to promote and maintain good health and as a constituent in herbal medicines used to treat various diseases, including liver dysfunction, hypertension, cerebrovascular disease, atherosclerosis, cancer, postmenopausal symptoms, and impotence. Very few controlled clinical studies have been performed to validate the medicinal use of ginseng or its constituents in humans. However, laboratory studies, primarily using rodents, have elucidated potential medical uses for ginseng and ginsenosides in the treatment of a number of human disorders, including impotence and loss of libido. *Panax ginseng* and *Panax quinquefolius* have both been shown to enhance male copulatory behavior in laboratory studies. Human studies have suggested that ginseng ingestion may be a safe and effective alternative method for treatment of erectile dysfunction. Ginsenosides have been shown to interact with steroid receptors and, through nongenomic pathways, activate NO production. How ginseng and its ginsenosides may act centrally to modulate sexual desire and copulatory performance is not known, but could potentially involve activation of NO pathways, perhaps in brain areas involved in sexual behavior.

Keywords Ginseng · Impotence · Erectile dysfunction · Sex behavior · Nitric oxide

Abbreviations

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| cGMP | Cyclic guanosine-3',5'-monophosphate |
| GTP | Guanosine triphosphate |
| IIEF | International Index of Erectile Function |
| MPOA | Medial preoptic area of the hypothalamus |
| NANC | Nonadrenergic-noncholinergic neurons |

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