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File: ■ Maca (*Lepidium meyenii*, Brassicaceae)
■ Sexual Dysfunction
■ Antidepressants

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RE: Maca Helps Improve Some Symptoms of Antidepressant-induced Sexual Dysfunction in Women

Dording CM, Schettler PJ, Dalton ED, et al. A double-blind placebo-controlled trial of maca root as treatment for antidepressant-induced sexual dysfunction in women. *Evid Based Complement Alternat Med*. 2015;2015:949036. doi: 10.1155/2015/949036.

A common adverse side effect associated with the selective serotonin reuptake inhibitors (SSRIs) or serotonin-norepinephrine reuptake inhibitors (SNRIs) is antidepressant-induced sexual dysfunction. Many postmenopausal women turn to complementary and alternative medicine to treat antidepressant-induced sexual dysfunction. Maca (*Lepidium meyenii*, Brassicaceae) root is traditionally used by Andean people for nutrition and to enhance fertility. Clinical trials with maca have shown a statistically significant improvement in several symptoms related to perimenopause and menopausal women, and a few other published papers have documented improvement in libido in women, including the previously published open-label trial by the same authors in which they concluded that 3 g/day of maca root increased sexual activity and improved sexual experiences.[1] The purpose of this double-blind, placebo-controlled study was to validate the results of the open-label study.

Women (n = 45; mean age, 41.5 years) with depression in the remission state and having antidepressant-induced sexual dysfunction were recruited from the Depression Clinical and Research Program; Boston, Massachusetts. Included patients met the following criteria: score of ≤ 9 on the 17-item Hamilton Rating Scale for Depression (HAM-D-17) and a score of ≤ 9 on the Hamilton Rating Scale for Anxiety (HAM-A) to indicate remission; taking a stable dose of an SSRI, venlafaxine, or a tri/heterocyclic antidepressant for the treatment of depression for at least 4 weeks; suffering from clinically significant arousal dysfunction or orgasmic dysfunction for at least 4 weeks, and the dysfunction had to have emerged subsequent to the use of the currently prescribed antidepressant; partaking in some regular sexual activity (i.e., masturbation, oral sex, intercourse) at least twice monthly prior to antidepressant use; and must have been willing to continue sexual activity at least once weekly for the duration of the study.

Patients were excluded for the following criteria: diagnosed with a sexual disorder in the past; were currently receiving another treatment for sexual dysfunction; were experiencing sexual dysfunction due to a general underlying medical condition; had experienced recent major relationship changes or turmoil unrelated to the sexual dysfunction; or had any other general health problems or social situations that might have influenced sexual dysfunction or its treatment.

Patients received either 1500 mg maca root (manufacturer and form not provided other than to say "Peruvian manufacturer") or placebo 2x/day for 12 weeks. Sexual function was evaluated with the Massachusetts General Hospital-Sexual Functioning Questionnaire (MGH-SFQ) and the Arizona Sexual Experience Scale (ASEX). Degree and improvement in antidepressant-induced sexual dysfunction were assessed with the Clinical Global Impression-Severity and Clinical Global Impression-Improvement scales (CGI-S and CGI-I, respectively). Depression and anxiety were monitored with the 28-item HAM-D, the 14-item HAM-A, and the Kellner's Symptoms Questionnaire (SQ). Blood was drawn to assess estradiol, progesterone, prolactin, and testosterone levels (timing not reported).

The mean change in ASEX and MGH-SFQ was not significantly different between groups. When the data were subgrouped by premenopause vs. postmenopause, there were still no significant differences between groups on the sexual function questionnaires. However, the maca group compared with the placebo group had higher remission rates on the ASEX (9.5% vs. 4.8%, respectively) and the MGH-SFQ (30% vs. 20%, respectively) (P values not reported). When the remission rate data were analyzed by premenopause vs. postmenopause, it was apparent that the higher remission rates occurred in postmenopausal women. In contrast, premenopausal women had no significant difference in remission rates between treatment groups on both sexual function questionnaires.

Only postmenopausal women taking maca had an improvement in orgasm compared with placebo (P value not reported) and only premenopausal women taking maca had an improvement in arousal compared with placebo (P value not reported). There was a significant correlation between testosterone levels at endpoint and sexual functioning on the ASEX in the maca group ($P = 0.042$), and a trend toward significance on the MGH-SFQ ($P = 0.057$). There were no significant differences in the other hormones, including estrogen levels, suggesting to the authors that the difference seen in the postmenopausal group was due more to advanced age than menopausal status.

Maca root was well tolerated. Three patients in the maca group discontinued for flu-like symptoms and vomiting; however, the authors do not attribute these adverse events to maca use. The authors report that the CGI-S, CGI-I, 28-item HAM-D, 14-item HAM-A, and SQ were conducted; however, they do not report the findings from these tests.

The authors conclude that maca root may alleviate antidepressant-induced sexual dysfunction. They acknowledge that a larger study is needed to confirm the findings, and they report that they are currently conducting a follow-up study. The data indicate that the mechanism of maca root may involve an alteration in androgen levels. It is well known that testosterone levels affect sexual function/dysfunction, so the proposed mechanism of action for maca root is plausible. Previous maca root research demonstrates a lowering of follicle-stimulating hormone (FSH) and an increase in estrogen. The authors admit to many limitations, including the relatively small sample

size, reliance on patient self-reporting, and the use of chemiluminescence assays that are known to have trouble detecting lower levels of testosterone in women. Additionally, they suggest future studies should include liver function tests to determine the effect of high-dose maca supplementation on liver function. In future studies, the authors should publish the product name and manufacturer so that the results can be replicated. Also, the authors evaluated many endpoints but did not publish the data without explaining why. This is a disclosure concern.

—Heather S. Oliff, PhD

Reference

[1]Dording CM, Fisher L, Papakostas G, et al. A double-blind, randomized, pilot dose-finding study of maca root (*L. meyenii*) for the management of SSRI-induced sexual dysfunction. *CNS Neurosci Ther*. 2008;14(3):182-191.

Referenced article can be accessed at http://www.hindawi.com/journals/ecam/2015/949036/.