



Therapeutic Effects of *Lepidium peruvianum* Chacon (Pre-Gelatinized Maca) used as a non-hormonal alternative to HRT in perimenopausal women – Clinical Pilot Study

H O Meissner¹, H Reich-Bilinska², A Mscisz³, B. Kedzia³

¹ Faculty of Health Studies, Charles Sturt University & Therapeutic Research, TTD International Pty Ltd, GPO Box 4792, Sydney 2001 (Australia)

² Specialist Gynecology Clinic, Glogow (Poland)

³ Research Institute of Medicinal Plants, 27 Libelta St., 61-707 Poznan (Poland)

Key Words: Alternative to HRT; blood hormones; Maca (*Lepidium peruvianum*); perimenopause

ABSTRACT

Background: Roots of cruciferous plant *Lepidium peruvianum* Chacon cultivated in high plateaus of Andes and known under its common name Maca, have been traditionally-used as an energizing vegetable with therapeutic properties for both men and women. Maca has been recognized by natives of Peru as herbal remedy helping to treat conditions affecting menopausal women.

Objective: The effects of Gelatinized Organic Maca (Maca-GO) on quantitative physiological responses and alleviation of symptoms contributing to menopausal discomfort in perimenopausal women was examined.

Methods: In this, four months, double blind, crossover, randomized pilot trial, monthly measurements of the following blood serum constituents were taken: Estrogen (E2), Follicle Stimulating Hormone (FSH), Luteinizing Hormone (LH) and Progesterone (PGS), Cortisol (CT), Adrenocortical Hormone (ACTH), Thyroid Hormones (TSH, T3, T4), minerals (Ca, K, Fe) and lipid profile (Triglycerides, Total Cholesterol, LDL, HDL). In monthly interviews conducted by gynecologist, body weight and blood pressure were registered and Menopausal Index according to Kupperman's was determined. Toxicity of Maca –GO determined on rats showed its safe use at the level of 7.5mg/kg body weight.

A group of 20 women (aged 41-50 years), who fulfilled criteria of being in perimenopausal stage (E2 above 40pg/ml and FSH below 30IU/ml), were randomly allocated to two even groups, one receiving for two months Maca-GO and the other Placebo capsules followed by a crossover with treatment change for another two months period. All participants signed informed consent to participate. Two 500mg hard capsules with Maca-GO or Placebo were self-administered by participants twice daily with meals (total 2g/day).

Results: Two months administration of Maca-GO significantly alleviated symptoms of discomfort observed in majority of women involved in the study (74%-87%) as assessed by Kupperman's Menopausal index. This was associated with significant increase in E2 and FSH, Progesterone and ACTH levels, and reduction in blood pressure, body weight, Triglycerides and Cholesterol levels. There was a distinctive placebo effect observed at the beginning of the study.

Conclusions: The results showed that in addition to reduction in body weight, blood pressure and increasing serum HDL and Iron, pre-gelatinized Maca-GO may be a valuable non-hormonal plant preparation for balancing levels of hormones (FSH, E2, PG and ACTH) and alleviating negative physiological and psychological symptoms (frequency of hot flushes, incidence in night sweating, interrupted sleep pattern, nervousness, depression and heart palpitations) experienced by women in perimenopausal stage. It appears that Maca-GO may act as a toner of hormonal processes, leading to alleviation of discomfort felt by perimenopausal women, hence, its potential use as non-hormonal alternative to HRT program.

Short title: Pre-Gelatinized Maca in Perimenopausal Women

The mailing address of principal author:

Dr Henry O Meissner, GPO Box 4792, Sydney 2001, Australia

Tel: + (61) 414 836 159; Tel/Fax: + (61 2) 9906 1580;

E-Mail: hmeissner@ttdintl.com.au