



HerbClip™

Laura Bystrom, PhD
Shari Henson

Alexis Collins
Amy Keller, PhD

Mariann Garner-Wizard
Heather S Oliff, PhD

Executive Editor – Mark Blumenthal

Managing Editor – Lori Glenn

Consulting Editors – Dennis Awang, PhD, Thomas Brendler, Francis Brinker, ND, Allison McCutcheon, PhD, Risa Schulman, PhD

Assistant Editor – Tamarind Reaves

AMERICAN
BOTANICAL
COUNCIL

File: ■ Black Cohosh (*Actaea racemosa* syn. *Cimicifuga racemosa*)
■ Polycystic Ovarian Syndrome (PCOS)
■ Ovulation Induction

HC 041352-479

Date: August 30, 2013

RE: Black Cohosh Stimulates Ovulation Induction in Women with Polycystic Ovarian Syndrome (PCOS)

Kamel HH. Role of phyto-oestrogens in ovulation induction in women with polycystic ovarian syndrome. *Eur J Obstet Gynecol Reprod Biol.* May 2013;168(1):60-63.

Polycystic ovarian syndrome (PCOS) is characterized by hyperandrogenism and polycystic ovaries, which contribute to menstrual irregularities, hyperinsulinemia, and long-term metabolic disturbances (e.g., diabetes mellitus, cardiovascular disease, and dyslipidemia). Occurring in 6.5% of women, PCOS is the most common cause of endocrinopathy in women of reproductive age, as it impedes the induction of ovulation. Clomiphene citrate is a selective estrogen-receptor modulator, and it is a first-line pharmaceutical treatment to induce ovulation. Clomiphene has numerous adverse side effects, and ovulation-inducing agents with better side-effect profiles are needed. Black cohosh (*Actaea racemosa* syn. *Cimicifuga racemosa*) has been demonstrated to have an estrogen-like effect on the central nervous system, and therefore may induce ovulation in women with PCOS. Hence, the purpose of this randomized, controlled study was to evaluate the effect of black cohosh on ovulation induction, hormonal profile correction, and pregnancy rate in women with PCOS.

Women (n = 100) with PCOS were recruited at the Gynaecology Clinic at Minia University Hospital; Minia, Egypt. Inclusion and exclusion criteria were not reported. Women were randomly assigned to receive either 40 mg/day of black cohosh (Klimadynon®; Bionorica SE; Neumarkt i.d.OPf., Germany) for 10 days or 100 mg/day of clomiphene for 5 days.

The treatments started on the second day of the cycle and were repeated for 3 successive cycles. Blood was drawn to assess levels of follicle-stimulating hormone (FSH), luteinizing hormone (LH), and progesterone. Transvaginal ultrasound was conducted to document the number and size of the growing follicles and endometrial thickness. Human chorionic gonadotropin (HCG) was given when the leading follicle reached ≥ 18 mm, at which time intercourse was advised.

At baseline, both groups were similar in terms of FSH, LH, and the FSH/LH ratio. The black cohosh group had a significantly greater reduction in the LH level and FSH/LH ratio ($P = 0.007$ and $P = 0.06$, respectively). Also, the black cohosh group had significantly greater progesterone levels ($P = 0.0001$) and endometrial thickness ($P = 0.0004$). Accordingly, the black cohosh group had a higher pregnancy rate than the clomiphene group (7 and 4 pregnancies, respectively); however, the difference was not statistically significant. There were 2 twin pregnancies in the black cohosh group and 1 twin pregnancy in the clomiphene group; the difference was not statistically significant. The black cohosh group had 1 case of abortion and 1 mild case of hyperstimulation. The clomiphene group had no abortions, 1 mild case of hyperstimulation, and 1 moderate case of hyperstimulation. This difference in hyperstimulation was not statistically significant between groups. Additional safety/tolerability parameters were not reported.

The effect of black cohosh on LH and the LH/FSH ratio indicates that black cohosh induces the hypothalamus to reduce the release of gonadotropin-releasing hormone (GnRH). A reduction in LH in women with PCOS is associated with better ovulation and implantation rates. The authors acknowledge that although black cohosh induced ovulation in women with PCOS and had fewer adverse effects, additional studies are needed to determine the optimal dose of black cohosh and to confirm the findings. In addition, larger studies are needed to detect whether better ovulation is also associated with a significant difference in the pregnancy rates.

—Heather S. Oliff, PhD

Referenced article is available to HerbClip e Service recipients.

The American Botanical Council provides this review as an educational service. By providing this service, ABC does not warrant that the data is accurate and correct, nor does distribution of the article constitute any endorsement of the information contained or of the views of the authors.

ABC does not authorize the copying or use of the original articles. Reproduction of the reviews is allowed on a limited basis for students, colleagues, employees and/or members. Other uses and distribution require prior approval from ABC.