

# **Alternative medicine and the perimenopause**

An evidence-base review

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# Perimenopause (1)

- **Definition:** the period immediately before menopause when endocrinologic and biological and clinical features of approaching menopause commence and the first year after menopause. (3 to 5 years before and 1 year after the cessation of menstrual flow)
- **Median onset:** 47.5 years of age

# Perimenopause (2)

## Biological changes

- The number of oocytes reach very low levels, from 1-2 million at birth to only a few thousands.
- The menstrual cycle begins to vary, typically the cycle shortens from one menses to the next.
- The levels of FSH increase - one of the first signs of reproductive aging
- Ovarian production of estradiol, progesterone and testosterone levels decrease with the onset of true menopause.
- Although hormone levels will eventually decrease, lower estrogen levels aren't experienced until six months to one year before true menopause.
- The lower levels of estrogen are no longer adequate to cause a build-up of the uterine lining and there is not enough tissue to produce a menses.

# Perimenopause (3)

## Possible symptoms

- Decrease frequency of menstrual periods
- Hot flashes
- Night sweats
- Insomnia and fatigue
- Irritability and mood swings
- Forgetfulness
- Depression

# Complementary and alternative medicine (CAM)

- Includes an array of systematic practice that rely on physical assessments and physiologic constructs, which work beyond the confines of allopathic practice.
- Provides so many options (acupuncture, herbes, nutritions, meditations...), whereas conventional medicine seems to have one limited offering: drug

# Classification of CAM

- Alternative systems of medical practice
- Bioelectromagnetic applications
- Diet, nutrition, and lifestyle changes
- Herbal medicine
- Manual healing
- Mind-body control
- Pharmacologic and biological treatment

Tendency:

At least 42% of Americans sought care from health practitioners other than allopathic physicians (Eisenberg et al, 1993), and the percentage use today is even higher.

46% medical doctors in swiss use CAM for themselves ( Domenighetti et al 2000).

# Botanical medicine

- Denotes foods and supplements made from any plant part (leaves, stems, flowers, fruits,, seeds and roots). Herbal defines the medicine from herbaceous portions of plants, namely leaf and stems.
- 30% of current pharmacopoeia derived from old plant medicine.
- Provides a number of important actions in reproductive systems (estrogenic, progestational, androgenic, and antiestrogenic activity.)



# Abnormal bleeding in the perimenopause

## Three phase of change in menstrual flow:

- The amount of flow and the cycle length change.
- There is cycle irregularity without skipping cycles
- Irregularity is further exacerbated with skipped cycles becoming more and more common.

Defined by the Seattle Midlife Women's Health Study

## Conventional approaches

# Treatment of abnormal bleeding in perimenopause

- Progestational therapy
- Oral contraceptives
- Gonadotropin agonists with add-back therapy
- Nonsteroidal anti-inflammatory drugs
- Progesterone- or progestin-releasing intrauterine devices
- Endometrial ablation

## Recommended botanical medicines in

# Treatment of abnormal bleeding in perimenopause

- Arnica (*Arnica montana*)
- Beth root (*Trillium erectum*)
- Burning bush (*Dictamnus albus*)
- Ergot (*Claviceps purpurea*)
- Great burnet (*Sanguisorba officinalis*)
- Horsetail (*Equisetum arvense*)
- Lavant cotton (*Gossypium herbaceum*)
- Maidehair (*Andiantum capillus-veneris*)
- Nerve root (*Cypripedium calceolus*)
- Scotch broom (*Cytisus scoparius*)
- Shepherd's purse (*Capsella bursa-pastoris*)
- Sweet sumach (*Rhus aromatica*)

## Theory

# Vasomotor symptoms: hot flashes and sweats

Loss of estrogen leads to a failure of thermoregulatory processes with the set-point for temperature regulation readjusted to kick in within the normothermic range, rather than in hyperthermic state.

## Conventional approaches

# Treatment of vasomotor symptoms

- Estrogen
- Progestins (megestrol, norethindrone acetate, medroxy-progesterone acetate)
- Selective serotonin reuptake inhibitors (SSRIs)

# Alternatives for vasomotor symptoms (1)

- Soy
- Black cohosh
- Dong quai
- Evening primrose
- Ginseng
- Soy- and red clover-based isoflavone supplement
- Topical progesterone

# Soy (1)

- The use of soy has not been specifically addressed in perimenopausal women, but in menopausal women.
- The studies are difficult to compare because of different amounts of soy protein in differing food stuffs with different amounts of the active component- the isoflavones.
- Studies have been of very short duration, less than 3 month.

# Soy (2)

| Study type                                | Sample size | Treatment group                           | Control group            | Duration  | Result (Hot flash)   |
|---|-------------|---|--------------------------|-----------|--|
| Control                                   |             | 20g soy protein with 34 mg isoflavones    | 20g carbohydrate complex | 1.5 month | Decreased in severity but not in frequency in the treatment group                        |
| Randomized control                        | 100 women   | 60g soy protein with 76 mg isoflavones    | casein                   |           | Decreased by 45% in treatment are, comared with only a 30% decrease in the control group |
| Control                                   |             | Soy flour supplement                      | Wheat flour              | 3 month   | 40% reduction in treatment group vs 25% in control group                                 |
| Randomized, double-blind, placebo control | 24 women    | 60g soy protein with 134.4 mg isoflavones | Isoflavone-poor version  | 3 months  | No observed difference   |



# Cognition, mood, affect, depression, anxiety, and sleep

- Mood disorders associated with perimenopause clearly overlap with PMS and premenstrual dysphoric disorder (PMDD).
- Ovarian steroids directly or indirectly influence neurotransmitters.
- The abnormal hyperreactivity of some women to changes in normal endogenous levels of sex steroids may be tied to the serotonergic system.
- PMS has been treated successfully with SSRIs
- Adrenergic, opioid, and  $\gamma$ -aminobutyric acid (GABA) systems have also been suggested to play a role in hormonally sensitive subjects.

# Alternatives for mood and affective complaints

- Ginkgo
- Kava (*Piper methysticum*)
- St. John's wort (*Hypericum perforatum*)
- Valerian

The editors of the prestigious *New England Journal of Medicine* asserted:

There cannot be two kinds of medicine – conventional and alternative. There is only medicine that has been adequately tested and medicine that has not, medicine that works and medicine that may or may not work. Once a treatment has been tested rigorously, it no longer matters whether it was considered alternative at the outset.

# Phytoestrogens: definition, classes and sources

- Definition: phytoestrogen are naturally occurring compounds, found in plants, that are structurally and functionally related to 17 $\beta$ -estradiol or that produce estrogenic effects.
- Classes: lignans, **isoflavones**, coumestans and resorcylic acid lactones.
- Sources: plants including cereals, legumes (soybeans, red clover...) and grasses.

# Phytoestrogens in the management of the menopause

Epidemiological studies suggest that consumption of a phytoestrogen-rich diet may ameliorate estrogen-deficiency symptoms in postmenopausal women, and may be protective against breast, endometrial and bowel cancers, osteoporosis and cardiovascular disease.

(Rees and Purdie, 1999)