

Industry Cooperation

# Vitamin E and Evening Primrose Oil for Management of Cyclical Mastalgia: A Randomized Pilot Study



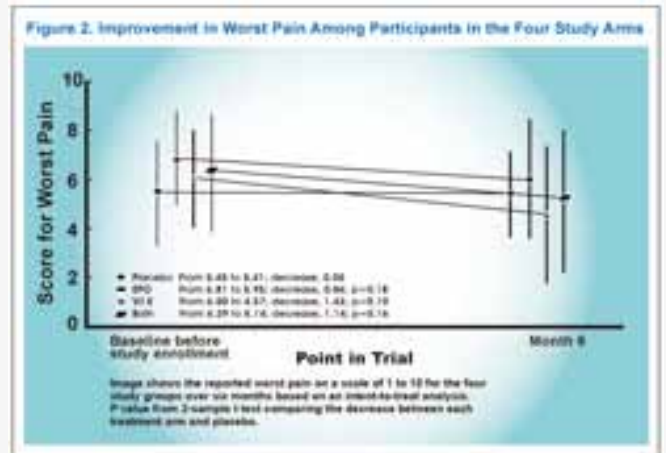
It appears that all women may have premenstrual syndrome (PMS) symptoms during their entire life. Most symptoms are related to the irregular ratio of luteinizing hormone and estrogen. Imbalanced nutrition, excessive weight loss, stress, insufficient sleeping, and imbalanced hormone can cause PMS as well. According to medical statistics, about 75% of women encounter PMS problems 1 to 2 weeks before their period, including fatigue, abdominal and pelvic cramps, breast swelling and pain, edema (visible swelling, particularly in the hands, feet and legs), acne, dizziness and decreased balance, mood swings, depression, tearfulness, irritability, angry outbursts, et cetera. The most bothersome issue is breast swelling and pain.

Due to periodic hormonal changes, 70% of women have been bothered by Mastalgia about one week before their period. The symptoms include pain or swelling in the breast area in one or both sides, menstrual migraines, insomnia and irritability. The symptoms disappear after the period, but if ignored; it may lead to other diseases for example, hyperplasia of the mammary glands, fibrocystic breast and even infertility.

To alleviate symptoms, fit and strong-support underwear should be worn and also NSAID can be taken to reduce the pain. However, if results are inadequate and even affect daily life, medicine including Danazol, Tamoxifen citrate, and progesterone/progestogens are suggested for clinical use. Although medicine can alleviate the pain, short-term or long-term use can cause side effects. Besides medicine, research already proved that taking supplements is a good way to relieve Mastalgia, and common supplements include vitamin B6, EPO and vitamin E.

Because of this data, therefore, Mayo Clinic cooperated with New Health in a study that divided 84 women with PMS into 3 groups, and let them take 3 capsules of NH all Natural E (vit E 1200 IU) daily, 3 capsules of NH EPO (300 mg) daily, and 3 capsules of NH all Natural

E (vit E 1200 IU) together with 3 capsules of NH EPO (300 mg) daily. Six months later, the index of Mastalgia decreased significantly for all groups: the vitamin E, EPO or combined.



**Explanation of Figure 2:**

- Placebo: no significant difference
- Supplement 3 capsules EPO: Score for Worst Pain decrease
- ▲ Supplement 3 capsules vitamin E: Score for Worst Pain decrease

Vitamin E can elevate cell membrane antioxidant ability and aid in protection from free radicals during the metabolic process (for example, steroid hormone synthesis). However, EPO not only possesses abundant essential fatty acids, but also contains 7-14%  $\gamma$ -gamma-linolenic acid (GLA) which could inhibit the inflammation caused by mastalgia and the elevation of prostaglandin concentration. In addition, a derivative of GLA, DGLA (dihomo-gamma-linolenic acid), could inhibit arachidonic acid (AA) formation, and decrease inflammation. Therefore, sufficient vitamin E and EPO could reduce the level of mastalgia.

It is important to know that the source of nutrients, and ingredients are important factors affecting product quality, and the proper regimen is important for product efficacy. High quality EPO contains at least 9.5%  $\gamma$ -linolenic acid. The preferred form of vitamin E (d- $\alpha$ -tocopherol) is the natural form sourced from soy bean and wheat germ. The natural form of vitamin E provides better absorption and physiologic activity. Therefore, optimal health benefits depend upon careful product selection.