

Traditional Approaches in the using of Hayit Honey in the Support Therapy of Some Gynecological Problems in Women

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Mini Review

Received date: 21/12/2016

Accepted date: 06/04/2017

Published date: 13/04/2017

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Keywords: Gynecological problems, Hayit honey, *Vitex agnus-castus* L

ABSTRACT

Varieties of natural products have been studied as natural therapeutic and preventive agents in the development countries. Honey is commonly used for both food stuffs and treatment of many diseases. The mono floral hayit honey has aphrodisiac effect with a nice aromatic leaves and its leaves are used as spices. This natural product obtained the hayit plan (*Vitex agnus-castus* L.) have effects on estrogen levels. The basis of effect mechanism is dopaminergic properties of *Vitex agnus-castus* L. The hayit plant which can be used as an alternative to synthetic hormone therapy and has the potential to regulate the pituitary by affecting directly on the hormonal imbalance is also used for production of monofloral honey by honey bees. This product is been used in therapy of various gynecological problems in women depending on the data obtained from apitherapy field (treatment with bee products) of natural bee products monofloral with antioxidant capacity of components of *Vitex agnus-castus* in the bee products which will be examined by *in vitro* and *in vivo* assays will be support.

INTRODUCTION

Today, use of natural products and safe food production has gained importance especially in the developed countries, as society consciousness concentrates on human and environmental health ^[1]. Especially when the studies are examined on bee products are used for antioxidant therapy, the result is shown that the phenolic components are intensive ^[2,3]. Such components have strong antioxidant activity and are consumed as natural preservatives. Apart from honey as a food, the use of alternative treatments is due to the fact that honey has many biological activities. Honey has been used with the apitherapeutic feature in the treatment of medical gynecological problems of women especially in the researches made in recent years ^[3-9].

The hayit plant is multi-branched plant in the form of shrubs or small trees from the family Verbenaceae. Leaves are 5 or rarely 7-parted and because of their appearance they are five-finger trees. Leaves are 3.5-15 cm in length and 0.5-2.8 cm in width. Leaf stems are long and the lower leaves are 4 cm long. The flowers are clustered and clustered on branch tips. The leaves are pale mauve or blue and are about 8 mm thick. They bloom between June and September and mostly are spread 1- 750 m between heights in saline areas, alluvial soils, and rocky areas close to the sea and limestone slopes. This specie find widely in Central Asia, Southern Europe and Mediterranean Region is spreading in hot and tropical regions. It grows in the Aegean and Mediterranean regions in our country (Turkey). For about 2000 years, medicinal plants, ornamental plants and spices (leaves and fruits) are used ^[1,6,7,10].

Vitex agnus-castus is used as a pollen source in hayit honey. It is reported that there are a lot of vitamins, minerals, hormones and diterpenes with rotundifuran, vitexilactone, diasedoxy, hydroxyabda, diene, dihydroxy, methoxyflavone, hydroxycamphorol, tetramethylether, chrysosplenol, agnoside, aucubin, ether derivatives (essential oils), caprinacite, palomitinacite, palomitoleinacid and stearic acid in its composition ^[2,4,5]. In the studies identified the dopaminergic effect of *Agnus-castus* has proven that at least two components with dopaminergic activity are present: first; the hydrophilic, thermolabile compound. Second; the endocrine active component is the biphilic diterpenes which are lipophilic and thermostable ^[9,10].

A high level of prolactin in women inhibits the release of pulsatile gonadotropin. As a result, insufficiency in follicle maturation,

anovulation and impaired estrogen-progesterone balance causes [8,9]. Disruption of balance between sex hormones leads to the formation of cycle disorders, premenstrual syndrome and mastodynia. In addition, prolactin is directly implanted on the breast for proliferation of connective tissue. It has been determined that the natural dry extract of the hayit plant (*Agnus castus*) has a dopaminergic effect on lactotrophic pituitary cells by lowering the level of the raised prolactin to the normal level. High prolactin levels have been found to decrease gonadotropin secretion and proliferative effects on breast tissue of prolactin. As a result, some gynecological problems (menstrual cycle problems, premenstrual syndrome and mastodinide) are reported to be normalized. *Vitex agnus-castus* L. extract does not cause any changes in blood pressure and pulse rate, nor is there any change in electrocardiography (ECG) values even at the maximum dose. There were no deviations in erythrocyte, leucocyte, platelet or hemoglobin values in 3 different dosing regimens of 120 mg, 240 mg and 480 mg. No pathological changes were found in blood count, hematocrit, *mean corpuscular hemoglobin* (MCH) or *mean corpuscular volume* (MCV) values. These three doses did not alter serum glutamic-oxaloacetic transaminase (SGOT), serum glutamic-pyruvic transaminase (SGPT), γ -glutamyl-transpeptidase (γ GT), alkaline phosphatase, total bilirubin, lactate dehydrogenase, total cholesterol, triglyceride, and total protein or serum glucose levels. In addition, urine creatinine, uric acid, urea and serum sodium, potassium, chlorine, calcium, inorganic phosphate or total iron levels have not changed. There were no changes in clinical and chemical parameters at the doses tested, and no changes were observed in baseline serum concentrations of luteinizing hormone (LH), follicle stimulating hormone (FSH) and testosterone. Synthetic prolactin and gonadotropin inhibitors have a high side effect such as amenorrhea and anovulatory oligomenorhea in 40% of patients using gonadotropin inhibitors. While some gestagens cause an increase in prolactin secretion, they also reduce endogenous progesterone synthesis. It is reported no side effects in a study of 596 women with premenstrual syndrome referenced to the results of treatment with *Agnus castus*. There are two heterozygous substances (viteksin and viteksinin) in extracts from the plants of hayit. These are reported to have no antimicrobial activity against gram-positive bacteria but not against gram-negative bacterial and yeast fungi. Also in some *in vitro* studies [3,9] with *Vitex agnus-castus* L. extract;

Subacute Toxicity

Vitex agnus-castus L. extract was administered to 1000 mg/kg rats. No side effects were observed at the end of the treatment for four weeks. 50 mg extract/kg body weight; this value is reported to be 4 mg/patient and well above the recommended human dose per day.

Chronic Toxicity

Vitex agnus-castus L. extract was orally administered to rats for 26 weeks and no side effects were observed.

Mutagenicity

In isolated mammalian cells, in L extract of *Vitex agnus-castus* did not produce any evidence of the genotypic or chromosomal damage effects used to assess the genotoxic potential. *Vitex agnus-castus* L. extract mutations were not caused in the Ames-Test and cultured mammalian cells (mouse lymphoma cells). Oral administration to rats did not lead to an increase in DNA synthesis in liver cells. *In vivo* evaluations on chromosomal damage in mice were also negative in the micronucleus test result.

DISCUSSION AND CONCLUSION

The results of some investigations on the *Vitex Agnus-castus* L. extract are summarized below. Hayit is an alternative treatment to synthetic hormone therapy. Hayit regulates hormone imbalance directly on the pituitary gland. Since the fainting itself is not a hormone, the effect is indirect. For this reason, it provides a soft and slow treatment. The negative side effect is as low as 2%. No side effects other than tingling in the skin were found. It has also been observed that tingling has also passed when the use of fuels has been abandoned. While mothers sucking in synthetic hormone therapy need to stop treatment, they can continue to treat hayit plant as they increase milk production. While long-term synthetic hormone treatment is required in the treatment of some diseases, one-year hayit plant therapy may be sufficient for these diseases. As a result; this review provides basic information on the use of honeybees in the field of apitherapy, together with the identification of the presence of the active components of the *Vitex agnus-castus* L. used in the treatment of certain gynecological problems [3,8,9].

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