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### **Vitex agnus castus might enrich the pharmacological armamentarium for medical treatment of prolactinoma**

Dear Editor,

Gallagher et al. have recently reported the interesting case of a patient with an undiagnosed prolactinoma who had improved symptoms of hyperprolactinemia following administration of Vitex agnus castus (VAC) extract, an herbal medication derived from chasteberry [1]. This delayed the diagnosis of the prolactinoma. VAC extracts are traditionally used for treating gynecologic disorders such as dysmenorrhea, oligo/amenorrhea, premenstrual syndrome, corpus luteum insufficiency, infertility, symptomatic menopause, dysfunctional uterine bleeding, disrupted lactation, and acne [2,3]. In Europe during the middle ages, VAC fruit was popular among celibate clergymen for its supposed ability to reduce unwished sexual libido. From that, the traditional name relating to chastity was coined [2]. Today, commercially available VAC compounds are marketed worldwide as women's health remedies. Indeed, the German medical commission for herbal drugs has approved VAC extract for the management of premenstrual syndrome, mastalgia, and menstrual irregularities. Current

data indicate that VAC fruit can be considered as a well tolerated herbal drug [4].

In a study of patients with cyclic mastalgia and mild hyperprolactinemia, a VAC-derived compound had a similar therapeutic profile as bromocriptine with respect to reducing mastalgia and lowering serum prolactin (PRL). VAC showed advantages in terms better patient compliance and lower cost than bromocriptine [5]. As Gallagher and colleagues have noted, a VAC extract was effective in lowering PRL concentration in a group of healthy men, an effect that appeared to depend on the administered dose and initial PRL levels [6].

Theoretically, VAC could represent an additional tool for the medical treatment of hyperprolactinemia, including patients with prolactinoma. However, the optimal effective dose and duration of VAC treatment still needs to be defined. To the best of our knowledge, no herb–drug interactions have been described with VAC but caution should be advised in case of concomitant treatment with drugs interacting with the dopaminergic system, or oral contraceptives. The use of VAC extracts during pregnancy or lactation should be avoided because of a lack of data.

In our department, we have recently followed a 31-year-old woman presenting with amenorrhea and galactorrhea. Basal PRL was 2207 mU/l (reference values: 50–600) and the TRH-stimulated curve was compatible with adenomatous PRL secretion. Pituitary MRI showed the presence of an adenoma (5 mm) with a small cystic component. A conventional dopamine agonist was proposed as treatment but the patient refused and decided to take a VAC compound (20 drops b.i.d.). After 3 months PRL levels decreased to 1766 mU/l but symptoms persisted and VAC therapy was withdrawn. Six months later, pituitary MRI documented an unchanged microadenoma. PRL levels were 1609 mU/l. The patient did not take any medication after VAC extract withdrawal.

In the case described here, VAC extracts were not effective for the control of hyperprolactinemia and related symptoms. Despite this report, VAC could become a non-surgical therapeutic alternative for hyperprolactinemic patients that do not tolerate, or refuse, conventional dopamine agonists. Moreover, the number of patients seeking natural drugs is continuously increasing and improved knowledge regarding these forms of therapy is becoming more necessary for physicians. Identification of the active components of VAC is a necessary step for understanding the medical properties of this herbal drug and predicting further therapeutic uses. Recent data demonstrate that the fractionation of a VAC extract resulted in the isolation of dopaminergic bicyclic diterpenes. The fraction with the highest dopaminergic activity was a mixture of diterpenes of the clerodane type that inhibited cAMP formation and PRL-release in rat pituitary cell cultures [7]. Once the VAC dopamine agonist-like molecules are definitively characterized, drug doses and administration details could be potentially targeted also to prolactinoma patients.

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## Comment on “new paradigm for prevention of cervical cancer” [*Eur J Obstet Gynecol Reprod Biol* 2007;130(1):25–9]

Dear Editor,

We read with interest the expert opinion of Kaufmann and Schneider [1] on the new paradigm for the prevention of cervical cancer and support the introduction of a new vaccine for this purpose.

Cytology-based Pap smear programs have successfully diminished the incidence and mortality rates in developed countries. Among developing countries with few resources, where 80% of invasive cancer cases occur, these programmes have failed to reach a significant proportion of women, as they are complex and costly to run [2].

For developing countries like India, technical, financial and manpower constraints limit the use of cytology-based screening programmes [3]. Naked-eye visual inspection of

the uterine cervix, after application of 5% acetic acid (VIA) proves to be a simple and effective test. It has been recommended by the WHO as an alternative to cytology for screening cervical cancer.

According to the authors, vaccination for the primary prevention of HPV infection is a reliable tool for eradicating a large proportion of cervical cancers. This might hold true for developed countries, but in developing countries like India, VIA remains the key to primary prevention of cervical cancer.

The authors mention the necessity of co-financing by the WHO, the Vaccines for Children (VFC) program and private foundations for developing countries. As we all know, India's decade-old polio eradication programme that aims to make the country polio-free with help of the WHO, UNICEF, the Center for Disease Control of the US and Rotary International, has suffered a serious setback. Despite being the largest health programme in the world ever to be carried out, it has failed to eradicate polio to date [4]. This is because missed houses included those where the children were absent, vaccination was refused or it was reported that the child had received the vaccine despite evidence to the contrary [5]. Something similar will happen if a vaccine for cervical cancer is introduced into India for the eradication of cancer of the cervix. We wish to convey that the goal of eradication of cervical cancer using a vaccine is achievable in theory, but it is not practical in developing countries, especially in India.

We therefore invite further discussion and suggestions that will contribute to the support of the introduction of a new vaccine.

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