

# The potential protective effect of Hydrastasis Canadensis on the cervico-vaginal lesions

Sorin PETREA<sup>1</sup>, Nicolae BACALBASA<sup>2,3</sup>, Irina BALESU<sup>4</sup>, Claudia STOICA<sup>5,6</sup>, Lucian POP<sup>7</sup>, Valentin VARLAS<sup>2,8</sup>, Cristina MARTAC<sup>9</sup>, Andrei VOICHITOIU<sup>2,7</sup>

<sup>1</sup> Department of Surgery, "Cantacuzino" Clinical Hospital, Bucharest, Romania

<sup>2</sup> Department of Obstetrics and Gynecology, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup> Department of Visceral Surgery, Center of Excellence in Translational Medicine, Fundeni Clinical Institute, Bucharest, Romania

<sup>4</sup> "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

<sup>5</sup> Department of Anatomy, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

<sup>6</sup> Department of Surgery, Ilfov County Emergency Hospital, Bucharest, Romania

<sup>7</sup> Department of Obstetrics and Gynecology, "Alessandrescu-Rusescu" National Institute of Mother and Child Care "Alessandrescu-Rusescu", Bucharest, Romania

<sup>8</sup> Department of Obstetrics and Gynecology, Filantropia Clinical Hospital, Bucharest, Romania

<sup>9</sup> Department of Anesthesiology, Fundeni Clinical Institute, Bucharest, Romania

## ABSTRACT

*Homeopathic principles have been widely investigated and proposed even from the ancient times in order to treat different wounds, to prevent inflammation and to treat infections. Although initially they have been tested in regard to skin wounds, their use was also tested in regard to different internal viscera with promising results. Therefore, such extracts have been proposed as part of the topical products proposed for treating certain pathologies of the uterine cervix such as infections, cervicitis or even in order to prevent the risk of uterine cervical cancer development.*

*The aim of the current paper is to discuss about the potential protective role of Hydrastasis Canadensis in treating different cervico-vaginal lesions.*

**Keywords:** Hydrastasis Canadensis, cervico-vaginal lesions, inflammation, angiogenesis  
Introduction

## INTRODUCTION

Although uterine cervix is a relatively facile to be examined organ and screening tests for early detection of preneoplastic lesions have been widely implemented so far, uterine cervix cancer still represents a significant health problem in a significant number of countries [1].

Meanwhile, this organ seems to be also predisposed to different types of infectious aggressions leading to the apparition of local inflammation; meanwhile, due to the fact that it is a natural barrier against bacteria, viruses, fungi and parasites, in certain cases uterine cervix is significantly affected by these pathogenic germs and loses the protection function; in such cases all

Corresponding authors:

Nicolae Bacalbasa

E-mail: nicolae\_bacalbasa@yahoo.ro

Article History:

Received: 21 June 2022

Accepted: 24 June 2022

these pathogenic microorganisms which can be found at the level of the vaginal and uterine cervix will be no longer impeded to colonize the uterine cavity and even the peritoneal cavity through the fallopian tubes [2-4]. In this respect, attention was focused on creating efficient vaginal topic agents which might destroy these pathogenic microorganisms and in the meantime which might reestablish the normal vaginal flora. Moreover, certain homeopathic agents proved to be particularly efficient in regard to stimulation of collagen synthesis and meanwhile in inhibiting different pro-inflammatory molecules [5].

The aim of the current paper is to discuss the potential benefit of *Hydrastis Canadensis* in treating different cervico-vaginal disorders.

### THE BENEFITS OF HYDRASTASIS CANADENSIS

*Hydrastis Canadensis* represents one of the most commonly used botanical remedies in order to treat allergies, inflammatory disorders or digestive tract disorders. Also known under the name of goldenseal, this small plant originates from North America and has been traditionally used for treating skin and ocular inflammation (figure 1)[6-9]. However, when administrat-

ed as part of the alimentary supplements, it should not be omitted the fact that in high concentrations, berberine can become toxic and cause serious conditions such as cardiac arrhythmia and even cardiac arrest [8]. Therefore, attention was focused on administrating this substance as topic agents such as intravaginal ovules; in this way the antibacterian and anti-inflammatory effect of *Hydrastis Canadensis* can be efficiently used with minimum systemic side effects due to the almost inexistent systemic absorption.

### RATIONALE FOR USING HYDRASTASIS CANADENSIS AS PART OF THE VAGINAL TOPICAL PRODUCTS

When it comes to the role of *Hydrastis Canadensis* effect on the gynecological tract it seems that it provides the regularization of the menstrual cycle as well as of the excessive bleeding [8]. Meanwhile, it seems to have a protective role on the uterine cervix erosions improving the quantity and quality of the uterine cervix mucus; therefore it has been included in topic vaginal products with promising results [8].

In the meantime, the antiseptic role of *Hydrastis Canadensis* has been widely demonstrated in patients with urinary or vaginal infections; meanwhile it seems

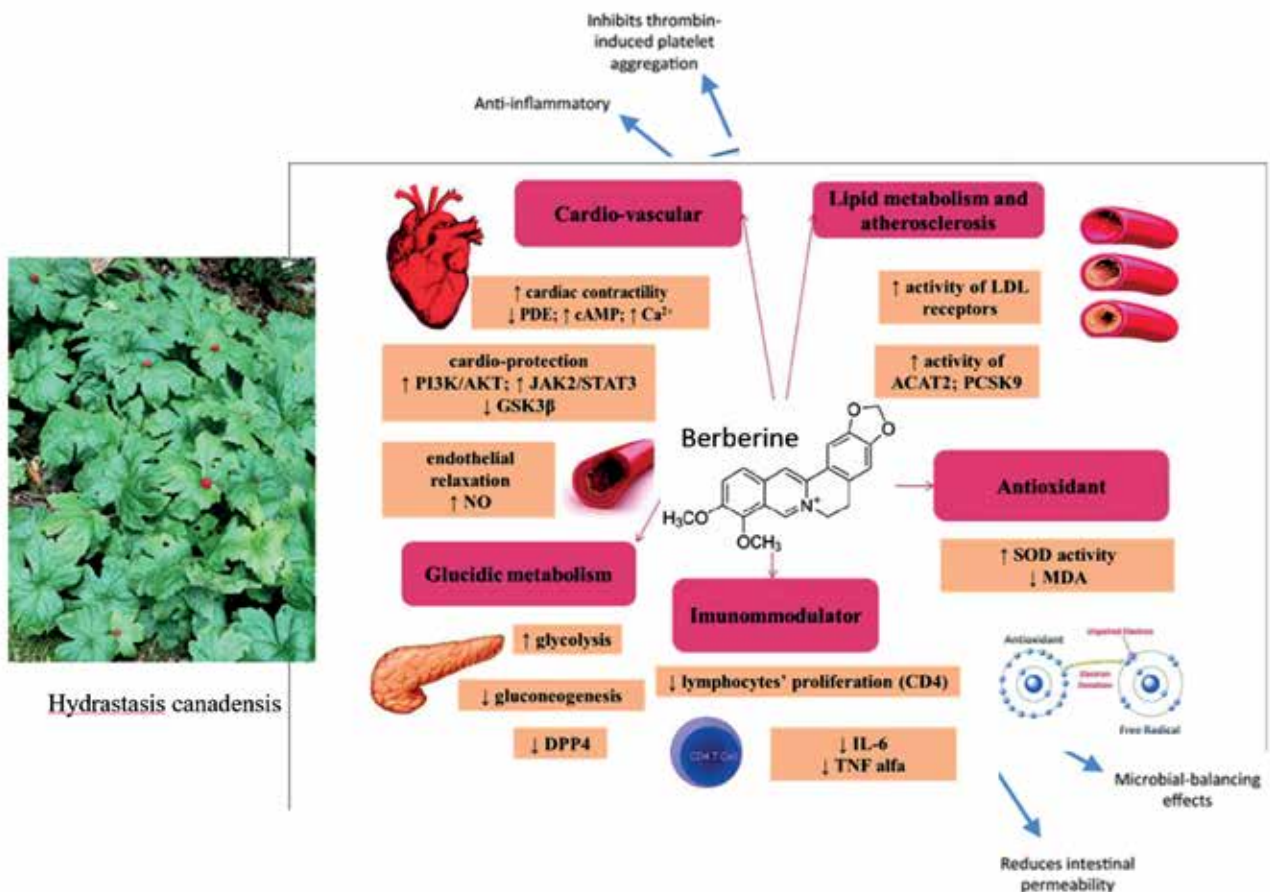


FIGURE 1. *Hydrastis canadensis* and berberine, the active principle – the effect on systemic metabolism

to have an anti-inflammatory and hemostatic role; the main active compounds are represented by berberine, hydrastine and canadine with an active antimicrobial role against microorganisms such as *Entamoeba histolytica*, *Giardia lamblia*, *Gardnerella vaginalis* and *Trichomonas vaginalis* [6-8]. Meanwhile, goldenseal extract demonstrated a significant efficacy in treating candida infection especially when located at the level of the mucosa [6]. *Chlamydia trachomatis*, another common sexually transmitted germ which can cause serious troubles such as infertility or can induce pneumonia or ophthalmological diseases in new born if contamination during vaginal born occur, seems to be also destroyed by berberine [9]. Other studies came to demon-

strate that berberine is also effective against herpes virus transmission and replication [9-12].

## CONCLUSIONS

Hydrastis Canadensis seems to represent an efficient homeopathic product in treating different cervico-vaginal disorders. The main properties which are to be taken in consideration are represented by the anti-inflammatory, antibacterial and hemostatic role inducing therefore a better healing process at this level. Meanwhile, due to its antibacterial effects it seems to increase the chances to re-establish the normal vaginal microbioma.

*Conflict of interest:* none declared

*Financial support:* none declared

## REFERENCES

- Zhang S, Xu H, Zhang L, Qiao Y. Cervical cancer: Epidemiology, risk factors and screening. *Chin J Cancer Res.* 2020; 32(6): 720–728.
- Wu EQ, Liu B, Cui JF, Chen W, Wang JB, Lu L et al. Prevalence of type-specific human papillomavirus and pap results in Chinese women: a multi-center, population-based cross-sectional study. *Cancer Causes Control.* 2013 24(4): 795–803.
- Wang Z, Wang J, Fan J, Zhao W, Yang X, Wu L et al. Risk factors for cervical intraepithelial neoplasia and cervical cancer in Chinese women: large study in Jiexiu, Shanxi Province, China. *J Cancer.* 2017;8(6): 924–932.
- Cohen PA, Jhingran A, Oaknin A, Denny L. Cervical cancer. *Lancet.* 2019;393(10167): 169–182.
- Bell IR, Koithan M. A model for homeopathic remedy effects: low dose nanoparticles, allostatic cross-adaptation, and time-dependent sensitization in a complex adaptive system. *BMC Complement Altern Med.* 2012;12:19.
- Kaneda Y, Torii M, Tanaka T, Aikawa M. In vitro effects of berberine sulphate on the growth and structure of *Entamoeba histolytica*, *Giardia lamblia* and *Trichomonas vaginalis*. *Ann Trop Med Parasitol.* 1991 ;85(4):417–425.
- Ma X, Deng J, Cui X, Chen Q, Wang W: Berberine exhibits antioxidative effects and reduces apoptosis of the vaginal epithelium in bacterial vaginosis. *Exp Ther Med.* 2019 ;18(3): 2122–2130.
- Jellin JM, Gregory PJ, Batz F, Hitchens K. Pharmacist's Letter / Prescriber's Letter Natural Medicines Comprehensive Database (ed 4), Therapeutic Research Faculty, Stockton, CA (2003)
- Sauerbrei A: Herpes Genitalis: Diagnosis, Treatment and Prevention. *Geburtshilfe Frauenheilkd.* 2016 ;76(12): 1310–1317.
- Vermani K, Garg SJ: Herbal medicines for sexually transmitted diseases and AIDS. *Ethnopharmacol.* 2002 ;80(1): 49-66.
- Vermani K, Garg S: Herbal medicines for sexually transmitted diseases and AIDS. *J Ethnopharmacol.* 2002 ;80(1): 49-66.
- Potroz MG, Cho NJ: Natural Products for the Treatment of Trachoma and Chlamydia trachomatis. *Molecules.* 2015 ;20(3): 4180–4203.