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Botanicals: An alternative remedy to radiotherapy-induced dysuria



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Summary Everyday, many patients get radiotherapy for prostatic, rectal, uterine cervix and other pelvic organs cancer. Dysuria is common in pelvic, especially prostate radiotherapy, but there is not any established and confirmed treatment for this therapeutic side effect. Therefore, an alternative therapeutic method, using herbal preparation, may be an effective solution. This study seeks a defensible suggestion in Iranian Traditional Medicine (ITM).

In ITM, a few medicinal herbs such as *Plantago psyllium*, *Cydonia oblonga*, *Portulaca oleracea* and some species of *Malvaceae* and *Cucurbitaceae* family are indicated in treating dysuria secondary to urethral moisturizing layer defect and inflammatory disorders. Most of these herbs have mucilaginous characteristics and tissue regeneration ability. This choice can be an appropriate one for radiotherapy-induced dysuria as it is produced by a similar pathophysiology with bladder cell layer injury and urethritis. Pharmacological properties such as anti-oxidant, anti-inflammatory, and anti-ulcerogenic activity of the offered herbs make its use justifiable. In lack of sufficient clinical trials to clarify the clinical outcome, further clinical investigation seems to be necessary.

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Introduction

Prostate cancer is the most commonly diagnosed cancer in western men with rising incidence even in low-risk populations.^{1,2} The worldwide incidence rate of prostate cancer was nearly 33 men per 100,000 in 2008,³ while a study in Iran published at 2007 reported this incidence as being much lower, estimated to be 5.1 per 100,000 men.⁴

The common treatment modality for newly diagnosed prostate cancers is radiotherapy,⁵ and dysuria is the most common early complication of either external beam radiotherapy or brachytherapy.^{5,6} As higher doses of radiotherapy is administered universally for higher free survival rates, associated morbidities like dysuria are growing up.⁵ According to guideline of American Society for Radiation Oncology published on May 2013, the prostatic cancer patients should be informed that over 90% of them may experience mild to moderate genitourinary radiotherapy toxicity effects.⁷ These effects diminish the quality of life of prostate cancer patients, and unfortunately, there is no proven treatment for it.^{8,9}

Today, the use of complementary/alternative medicine (CAM) has become more popular among patients who suffer from cancer.^{10–13} Almost one-third of men with prostate cancer use some kinds of CAM therapies to support their conventional cancer treatments.^{14,15}

Iranian Traditional Medicine (ITM), which has been referred to as Unani medicine in Harrison's Principles of Internal Medicine,¹⁶ was practiced primarily by great scientists, like Avicenna and Rhazes. In the scientific methodology of ancient Iranian physicians, which complies with the bases of modern medicine, methods of patient diagnosis and treatment were based on experiments and did not encompass the

superstitious beliefs of their times.¹⁷ Avicenna's discussion on etiology and pathophysiology of dysuria is comparable with concepts of modern urology.¹⁸ A review of Iranian herbal medicine related to dysuria may lead to new remedies in this field.

Methods

We studied eight original important clinical textbooks of ITM, namely *Liber Continents* by Rhazes (9th and 10th centuries), *Canon of Medicine* by Avicenna (10th and 11th centuries), *The Zakhireye Kharazmshahi* (Treasure of Khwarazm Shah) by Seyyed Esmail Jorjani (11th and 12th centuries), *Sharhe asbab va Alamat* (Explanation of causes and symptoms) by Nafis ibn Evaz Kermani (15th centuries), *Kholasat-ol-Tajarob* (Summary of experiences) by Baha Al-Dolah Razi (16th century), *Tebb-e-Akbari* (Akbari's Medicine) by Mohammad Akbar Arzani (18th century), *Moalejat-e-Aghili* (Treatments of Aghili) by Aghili-Shirazi (18th century) and *Eksir-e-Aazam* (The great elixir) by Mohammad Azam Khan (19th century) as well as three ITM comprehensive pharmacopeias, namely *Tohfah ol Moemenin* (The Present for the Faithful) by Mohammad Tonkaboni (17th century), *Makhzan ol Advieh* (The Storehouse of Medicaments) by Aghili-Shirazi (18th century), and *Gharabadin-e-Salehi* by Saleh Ibn Mohammad (18th century).^{19–29} Our preliminary investigation on ITM literature showed that we can chose the ITM name "*Herghat-o-albol*" as a equal name for dysuria. We studied the texts for the exact term (*Herghat-o-albol*), classification, and treatment approaches for dysuria, and we gathered the recommended botanical and herbal remedies in a distinct table.

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