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The role of acupuncture in the treatment of urologic conditions

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Abstract Although acupuncture is a primary treatment for urologic disorders in China, this is not always the case throughout the world. The purpose of this paper is to expose the benefits of acupuncture as both a primary and complementary treatment. Specific treatments for multiple urologic conditions are presented in this paper as a guideline. It is important to realize that there are additional useful treatments that belong to other acupuncture types and traditions. In our experience, acupuncture has been a useful treatment modality for urologic conditions. Patients have responded positively, having choices in their treatment with a modality that is associated with minimal side effects and knowing that traditional urologic treatments are available if needed.

Keywords Acupuncture · Urology · Cystitis · Stones · Incontinence · Impotence · Enuresis

The perception of acupuncture has gradually evolved from theories that combined non-medical fields, such as exorcism, magic and ancestor healing, to a widely accepted practice that attempts to restore the proper flow of energy through the meridian system. Acupuncture, while still complex in scope and practice, is based on the premise that the flow of energy through the body determines health. The publication of the "Nan Jing" during the Han dynasty in the first century A.D. introduced the theory of acupuncture points and channels to diagnose and provide therapy through needling.

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European medical practitioners were exposed to acupuncture in 1774, when Dujardin published "History of Surgery," which taught needling at painful sights and at the origin of the illness as a way of restoring the flow of energy to heal and reduce pain. Modern North American medicine was finally exposed to the benefits of acupuncture in 1971, when journalist James Reston accounted in a New York Times article how post-operative pain resulting from an appendectomy was alleviated by needling.

Traditional Chinese medicine vs. western diagnoses

We try not to see the Eastern vs. Western medicine paradigm as an either/or decision, but as a complementary system in which each provides distinct advantages over the other depending on the disease, the stage and the condition of the patient. That being said, there are distinct differences in the diagnostic methods used by these two systems. A western medical diagnosis is dependent on the practitioner's specialty. All diseases are put into categories and are treated by the specialty that covers the category. In TCM, there is the ability to cross into other domains to arrive at the best diagnosis and treatment plan for that individual.

For example, it is possible for a physical problem of the foot (podiatry) to cause a bladder problem (urology) and a headache (internal medicine). This is due to the fact that the bladder meridian travels through the foot and ultimately arrives at the head via the torso. Thus, an interruption anywhere in the bladder meridian can result in a multitude of medical conditions. The foot may have to be repaired by a podiatrist, while an acupuncturist would needle to restore the proper flow of energies back to the bladder meridian, thereby relieving the bladder problem and headaches. This demonstrates the differences in diagnosing and treatment of the patients between the two systems.

Types of acupuncture

The basic premise of acupuncture is that the energies of the meridian system are not flowing properly and therefore need to be adjusted through the use of needles and/or moxa. Since the purpose of needling is to modify the flow of energy in the body, it is often necessary to burn the herb moxa near the surface of the skin as a way of adding energy. Acupuncture has existed for thousands of years and therefore has developed a variety of practical styles. The main significant styles include TCM, meridian, auricular, hand and scalp acupuncture.

Traditional Chinese medicine is a blending of the traditional acupuncture with herbal medicine theory. It is a system that basically has developed point prescriptions for use with specific differentiations and allows for modification of the point prescription.

The meridian-based style makes a priority of the meridian with the most pathology. Point prescription can be made by palpation, five element theory or a combination of both.

Auricular acupuncture is not a meridian-based system. It uses points on either ear to access energies in the body. There are points for physical locations, organs, glands, emotions and functional aspects of the body.

Hand acupuncture was developed in Korea. It uses either hand as a microsystem of the body. The middle finger represents the head and neck, the index and ring finger represent the arms and hands, and the thumb and little finger represent the legs and feet. It also uses the basic meridian systems with all the points on the hands. It therefore can use point prescriptions from TCM by just placing needles on the hands.

Scalp acupuncture is more than just using acupuncture points in the scalp region. It is a style that uses specific locations on the scalp to treat problems of the body. In many instances, you use points that are over locations in the brain that control the area you are trying to help.

This is by no means a full accounting of all the available acupuncture styles. It seems that even though some areas of the world focus on just a few styles, it is the practitioners that eventually find the style that fits their personalities and perspectives.

Mechanism of action of acupuncture in urologic conditions

Acupuncture's mechanism of action is varied and somewhat controversial. Since numerous studies are continually being published attempting to elucidate these mechanisms, we will narrow this extensive data into what pertains to the genitourinary system. Yao has been able to document normalizations in blood pressures during hypotension and hypertension by activating small myelinated fibers coming from muscle receptors; this is thought to be mediated by changes in neurotransmitters and neuropeptides [17]. Other researchers have confirmed

blood pressure changes with acupuncture by changes in plasma rennin activity [6]. Renal blood flow changes have been clearly documented and related to specific acupuncture points. An increase in renal blood flow is seen with stimulation of Ki-3 [18] and a decrease by activating BI-23 [19]. Lastly, acupuncture treatments have shown changes in plasma estradiol, testosterone and cortisol levels [3], which may explain acupuncture's ability to treat impotence and male infertility. A paper by Lin further supports this theory by showing an endorphin-mediated mechanism affecting the hypothalamic-pituitary-gonadal endocrine axis and a direct effect on gonadal paracrine and autocrine control of steroidogenesis [9]. Recent reports of acupuncture raising the levels of interleukin-2 and natural killer cells may explain the benefits of acupuncture as an adjuvant to chemotherapy [10]. Thus, these data suggest the intricacy of acupuncture in changing the physiology of those treated by it.

Acupuncture in the treatment of urologic conditions

Among the more common pediatric urologic conditions to be seen by the average urologist is enuresis. Considering the embarrassment it produces for children when they reach school age, enuresis is a devastating condition that is often frustrating for the parents as well. Worried about possible side effects in children, urologists are constantly looking for alternatives to daily medications. Radmayr has done a randomized study with children older than 5 years of age comparing laser acupuncture treatments with desmopressin and found no statistically significant difference between the two groups in the efficacy of resolving or improving this condition [14].

Another very common condition and one responsible for multiple clinic visits is recurrent cystitis. Many women have been placed on prophylactic antibiotics between infections. Alraek has been able to show in a study with 61 women that traditional Chinese medical (TCM) diagnosis can be useful in cystitis [1]. Others have shown TCM to be effective in the prophylaxis of recurrent cystitis. Darenkov has demonstrated that in the treatment of both acute and chronic pyelonephritis, improvements of renal blood flow are seen by radionuclide renography. A positive response was seen in 60% of the cases treated by combined treatment that included acupuncture, versus 25% in those treated without acupuncture [2].

Renal colic is not only common in certain areas of the world, but also extremely painful. A study done by Lee demonstrated a quicker analgesic effect along with no side effects from acupuncture, as compared to a 43% rate of side effects with IM avafortan [7]. These are only a few examples demonstrating the usefulness of acupuncture in the treatment of urologic conditions (see Table 1).

Associated conditions

Acupuncture is beneficial in the postoperative management of patients. Needling has aided and reduced

Table 1 Acupuncture treatments for urologic conditions. This chart includes primary treatments listed first and then secondary treatments listed after that. Often times it is useful to alternate primary and secondary treatments [5, 11, 12, 15, 20]

Western diagnosis	TCM diagnosis	Treatments
Calculus	Lin syndrome	- GB-25, Bl-23, St-36
Acute cystitis	Damp heat in the lower burner	- CV-3, St-28, Sp-6, Sp-9.
	Heart deficiency	- Bl-23, Bl-2 8.
Chronic cystitis	Damp heat in bladder	- Bl-32, Bl-39, Bl-64
	Kidney and spleen deficiency	- Bl-28, Bl-32, Sp-9, SI-2, SI-5, Bl-27, Bl-15, Ht-8
Enuresis	Liver Qi stagnation	- Sp-9, Bl-22, Bl-28, Bl-32
	Spleen and kidney yang deficiency	- Ren-24, Du-20, Ren-4, St-36, Sp-6
Epididymitis/orchitis	Lu deficiency	- Du-20, Ki-3, Ht-7
	Ren Mai disorders	- Bl-13, Bl-20. Massage Ki-1
Incontinence	Liver Qi disorders	- Lu-7, Ki-6, Ren-4, Ren-3, Du-4
	Kidney deficiency	- Lu-7, Ki-6, Ren-4, St-30
Infertility	Spleen Qi deficiency	- Th-4 (acute)
	Sinking Qi in the middle burner	- Bl-54 (pain and heaviness in genitals)
Impotence	Kidney yang deficiency	- Bl-23, Sp-6, St-28, Ren-3
	Liver Qi deficiency	- Bl-32, Bl-31, Bl-39, St-28
Premature ejaculation	Kidney and spleen Qi deficiency	- Bl-60, Ren-6, Ren-4
	Jing deficiency	- Ht-7, Ki-3, Bl-23, Ren-7, Ki-18, Bl-18, LR-3, LR-5
Priapism	Stagnation of Qi	- St-36, Sp-6, Sp-10, Ren-6, Ren-4, Ren-3, Du-4
	Damp heat/liver Qi deficiency	- Ren-6, Ren-4, Bl-23, Du-4, Sp-6, St-29, Bl-32, Ren-3
Prostitis	Excess heat in liver and gall bladder	- Bl-15, Bl-28, Bl-19, St-36, LR-3, Ki-3
	Kidney deficiency	- CV-3, CV-6, CV-17, Sp-6, St-29
Retention	Deficient Qi	- CV-3, LR-1, LR-5, LR-11
	Damp heat	- LR-3, Ki-1, Ki-3, Bl-32
Undescended testicle	Kidney deficiency	- Sp-6, Ki-6, Ht-7, Ren-1
	Spleen deficiency	- CV-1, CV-3, St-29, Sp-6, Th-6, CV-6, CV-12, CV-12, St-36
Undescended testicle	Damp heat in bladder	- Bl-28, Bl-32, Bl-39, GV-20, Bl-20, Bl-23
	Kidney yang deficiency	- Bl-20, Du-20, St-36, Bl-28
Undescended testicle	Kidney yang deficiency	- Bl-23, Du-20, St-36, Ki-3, Ki-7, Bl-63, Du-4
	Kidney yang deficiency	- Bl-22, Bl-28, Bl-32, Bl-53, Bl-63, Sp-9
Undescended testicle	Kidney yang deficiency	- Ki-10, Sp-6
	Kidney yang deficiency	- Bl-23, Bl-32, LR-8, Ki-7

conditions such as postoperative ileus [7], urinary retention [1], pain, nausea and vomiting [8] Additionally, acupuncture has cosmetic benefits that reduce scarification [5]. The use of acupuncture is also a vital tool that can be utilized for those addicted to smoking [4], thereby reducing the associated risks of bladder cancer. In those being treated for cancer, acupuncture has been shown to reduce nausea and vomiting experienced during chemotherapy. Using acupuncture to manage pain in cancer patients has been extremely valuable in reducing the amount of narcotics given and therefore the side effects seen with such treatments [16].

Discussion

Trying to summarize 4,000 years of Chinese medicine in one paper is just as difficult as attempting to summarize treatments of urologic conditions in one page. It is the purpose of this author to entice those interested in this treatment modality, giving them a platform to further

pursue acupuncture as a primary or complimentary modality. Acupuncture can offer urologists a new tool with low complication rates, and it is gaining the interest of patients. The use of acupuncture also gives the urologist an opportunity to either pursue the study of acupuncture or to collaborate with other health care professionals.

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