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Current Research Status and Progress of Traditional Chinese Medicine External Therapies in the Prevention and Treatment of Incontinence-Associated Dermatitis: Postprint

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Abstract

Incontinence-Associated Dermatitis (IAD) is a localized skin inflammation resulting from exposure to urine and fecal matter. Through analysis and synthesis of the Traditional Chinese Medicine (TCM) understanding of IAD, its epidemiology, the concept of external TCM therapeutic methods, and their application in IAD management, this article aims to broaden perspectives on IAD nursing care, provide a foundation for exploring additional external TCM treatment modalities for IAD, and offer reference points for developing systematic nursing protocols for IAD based on external TCM therapies.

Full Text

Abstract

Incontinence-associated dermatitis (IAD) is a localized inflammatory skin condition caused by prolonged exposure to urine and feces. This paper analyzes and synthesizes the understanding of IAD within Traditional Chinese Medicine (TCM), its epidemiology, the concept of TCM external therapies, and their application in IAD management. The aim is to broaden nursing perspectives on IAD care, provide a foundation for exploring additional TCM external treatment modalities for IAD, and offer reference points for developing systematic TCM external therapy protocols for IAD nursing care.

Keywords: Traditional Chinese Medicine external therapy; incontinence-associated dermatitis; prevention and treatment; Traditional Chinese Medicine; acupoint application; moxibustion

1. TCM Understanding of IAD

In Traditional Chinese Medicine, IAD falls under the category of “wet sores” (湿疮), which refers to inflammatory skin diseases with exudative tendencies caused by various internal and external factors [1]. Historical texts such as the *Jin Gui Yao Lue* (Synopsis of the Golden Chamber) from the Han Dynasty documented these conditions as “infiltrating sores,” with detailed records also appearing in the *Zhu Bing Yuan Hou Lun* (Treatise on the Origins and Symptoms of Diseases) from the Sui Dynasty [2].

The disease primarily arises when pre-existing constitutional deficiencies allow wind, dampness, and heat evils to disturb the skin [3]. It commonly occurs due to spleen deficiency leading to dampness encumbering the spleen, causing water-dampness stagnation and impaired transformation; or when damp-heat accumulates over time, consuming yin-blood, generating wind and transforming into dryness over prolonged periods, resulting in malnourishment of the skin [4]. TCM recognizes that IAD patients often develop the condition due to prolonged bed rest from chronic illness, leading to constitutional deficiency and loose skin interstices with weakened defensive qi. Repeated fecal immersion causes damp-heat evils to linger in the skin interstices, transforming into heat over time. Accumulated damp-heat obstructs qi and blood circulation, and in severe cases, excessive heat leads to tissue necrosis [5].

The therapeutic principle for this condition should focus on expelling pathogenic factors initially, then later emphasize supporting the righteous qi while dispelling evil, with dampness elimination being a consistent priority throughout treatment. Treatment plans should be formulated based on lesion characteristics while considering both short-term and long-term efficacy [6].

2. Epidemiological Survey of IAD

With population aging and changing dietary habits, the incidence of skin injuries among hospitalized patients remains high, making skin care a key clinical concern. International surveys from 2015 reported IAD incidence rates as high as 36%, with 54% of patients developing concurrent fungal dermatitis [7]. A 2017 domestic multicenter study found an IAD incidence of 14.0%, with 21.7% of patients developing concurrent pressure injuries [8]. While Western nursing approaches recommend structured skin care protocols for local skin management, these are limited in clinical application due to high material costs and other issues. In contrast, Chinese medicine offers profound theoretical frameworks encompassing multiple concepts of “preventing disease before onset,” “preventing deterioration after disease onset,” and “preventing recurrence after recovery.” In recent years, increasing numbers of scholars have attempted to apply TCM external therapies for IAD patients with notable success. However, research on TCM external therapies for IAD prevention and treatment remains in its early stages, and systematic nursing protocols have yet to be established. This paper reviews the current status of TCM external therapy nursing for IAD through ex-

tensive literature review, aiming to provide reference for constructing systematic TCM external therapy nursing protocols.

3. Concept of TCM External Therapy

TCM external therapy was documented over two thousand years ago in the ancient medical text *Huang Di Nei Jing* (The Yellow Emperor's Inner Canon), which recorded approximately 30 external treatment methods including medicinal application, medicinal ironing, medicinal ointments, moxibustion, and massage. TCM external therapy refers to all treatment methods applied from the body surface and constitutes an important component of TCM therapeutics—a unique and effective set of traditional methods characterized by simplicity, convenience, affordability, and rapid efficacy [9]. Through continuous practical application and development, the concepts and classification methods of TCM external therapy have evolved with various approaches.

4. TCM External Therapy Methods for IAD Prevention and Treatment in IAD Patients

TCM external therapies are widely applied in IAD patients with significant effects. Current clinical nursing methods for IAD patients using TCM external therapy are primarily divided into five categories: wash methods, application methods, plaster methods, moxibustion, ironing methods, and manual techniques.

4.1 Wash Method

The wash method involves cleansing or wet-compressing local skin with herbal decoctions, achieving therapeutic effects through transdermal drug absorption. Commonly used herbs for IAD wash interventions include saffron infusion, dermatitis decoction, San Huang (Three Yellows) wash, Kangfuxin solution, watermelon frost, Chuanbai antipruritic wash, wound spirit, compound Phellodendron solution, Houfeng powder, fresh South African leaf compound herbs, heat-clearing and dampness-drying skin-moistening formula, five-flavor Coptis liquid, five-flavor disinfection drink, nitrate alum wash, and Xianfang Huoming drink. Hou Jie [10] used San Huang wash combined with structured skin care to prevent IAD in elderly ICU patients, with the control group using stoma powder plus M film for skin protection. After 7 days of intervention, comparing IAD incidence and severity between the two groups demonstrated that San Huang wash combined with structured skin care reduced both the incidence and severity of IAD. Chen Jiuli et al. [11] treated grade 2 IAD with 50% safflower alcohol wet compresses on the affected area for 30 minutes, comparing treatment efficacy and healing time with a control group receiving normal saline compresses. The results showed that 50% safflower alcohol compresses were significantly effective for grade 2 IAD, substantially shortening healing time.

4.2 Application Method

The application method involves topically applying herbal ointments, oils, or powders to local skin, utilizing the adhesiveness of the medicinals to achieve therapeutic effects through transdermal absorption. Commonly used herbal ointments for IAD application include Funingjie liniment, Fuzhenning ointment, Scutellaria oil ointment, moist burn ointment, aloe vera, Mayinglong hemorrhoid ointment, Mongolian medicine Gamuzhuer, Shengji ointment, double-yellow ointment, Xiongzheng ointment, Yufu herbal ointment, purple 草 Scutellaria ointment, purple dragon's blood ointment, self-prepared mugwort ash mixed with tea seed oil paste, and Jiu Hua ointment. Oil preparations include tea tree oil, pure rapeseed oil, soybean oil, purple 草 oil, sesame oil, licorice oil, olive oil, berberine oil, compound purple gardenia oil, camellia oil, and zinc oxide oil. Powder preparations include Bletilla powder, compound anti-rash cream, oral ulcer powder, dampness-toxin powder, camphor bark powder, gynecological powder No. 1, and anti-rash powder. Lai Ru et al. [12] applied purple 草 oil for IAD nursing care, with the control group receiving naftifine ketoconazole cream, both applied three times daily. Comparing clinical efficacy, recovery status, skin condition, pain levels, skin damage severity, and nursing satisfaction between groups demonstrated that purple 草 oil was superior to naftifine ketoconazole cream for IAD care. Guo Xuying et al. [13] used dampness-toxin powder for IAD patients compared with conventional nursing care, showing significant efficacy and faster symptom resolution. Mai Lixin et al. [14] studied the clinical effects of aloe vera and fresh South African leaf compound herbs for IAD, with the control group using zinc oxide ointment. Comparing total effective rates, skin wound healing time, and nursing satisfaction revealed that aloe vera and fresh South African leaf compound herbs improved treatment efficacy and satisfaction while shortening wound healing time.

4.3 Plaster Method (Acupoint Application)

Acupoint application is a commonly used plaster method that involves applying certain medicinals to specific acupoints, providing both medicinal and acupoint effects to dredge meridians, regulate organ yin-yang, and harmonize qi-blood [15]. Commonly used acupoints for IAD patients include Guanyuan (CV4), Tianshu (ST25), and Zusanli (ST36). Chen Meng et al. [16] studied the effects of acupoint application combined with moxibustion for IAD, with the control group receiving mupirocin ointment, demonstrating that the combined approach effectively relieved IAD symptoms. Ding Hongmei et al. [17] similarly treated IAD with combined acupoint application and moxibustion, showing that this combination effectively improved local skin conditions in dermatitis patients while significantly adjusting their fecal incontinence symptoms.

4.4 Moxibustion Method

Moxibustion involves making moxa sticks or cones from mugwort leaves, using the heat generated when ignited to stimulate specific acupoints or body areas

to warm meridians, dispel wind-dampness, and relieve pain through blood circulation. Moxa sticks primarily use mugwort leaves as the main ingredient, with various Chinese medicinals as auxiliary ingredients including patchouli, angelica dahurica, salvia, cinnamon twig, raw aconite, tangerine peel, and eaglewood, which work synergistically. Commonly used moxibustion acupoints for IAD patients include Guanyuan (CV4), Shenque (CV8), Yinlingquan (SP9), Qihai (CV6), Zusanli (ST36), and ashi points (such as genital area, perianal region, buttocks, groin, and inner thighs). Xia Yueyue [18] used moxa stick revolving moxibustion for IAD nursing care, with the control group receiving stoma powder plus M film intervention, showing superior efficacy and shorter healing time in the experimental group. Tong Xin [19] used blowing moxibustion for IAD patients after stroke, with the control group receiving stoma powder plus M film, demonstrating significantly shorter dermatitis healing time, faster redness resolution, and lower recurrence rates.

4.5 Ironing Method

TCM ironing therapy involves grinding selected herbal medicines into coarse powder, packing them into herbal bags, heating them in a pot until warm to the touch, and then applying the hot bags to treatment areas. Through its warming effect and medicinal properties transmitted via meridians, this method achieves pathogen dispelling, righteous qi support, meridian warming, and qi-blood regulation. TCM ironing therapy has a long history, with records in *Huang Di Nei Jing* stating “diseases born in the sinews are treated with ironing and guidance.” This method is characterized by simplicity, convenience, affordability, efficacy, and rapidity, representing a uniquely TCM-featured external therapy that is both ancient and emerging. Commonly used acupoints for IAD ironing include Shenque (CV8), Tianshu (ST25), Qihai (CV6), and Guanyuan (CV4). Li Yan et al. [20] studied the preventive effects of herbal ironing therapy for elderly IAD, with the control group receiving conventional preventive interventions and the observation group using dried ginger, evodia fruit, and coarse salt sprayed with water, heated to 60°C in a microwave to make hot packs applied to corresponding acupoints with even pressure and back-and-forth ironing for approximately 20 minutes, twice daily. Comparing IAD incidence between groups demonstrated that herbal ironing therapy effectively prevented incontinence-associated dermatitis.

4.6 Manual Technique (Acupoint Massage)

Acupoint massage is a primary manual technique applied in IAD prevention and treatment. Guided by TCM theory and based on meridian-acupoint doctrine, massage manipulation serves as the main treatment method to prevent and treat disease by stimulating specific acupoints and activating meridian qi to regulate bodily functions, unblock meridians, and support righteous qi while dispelling pathogenic factors. Commonly used massage acupoints for IAD patients include Tianshu (ST25), Shuidao (ST28), Guilai (ST29), and Changqiang (GV1). Xie

Jianyi et al. [21] used abdominal and perianal acupoint massage to prevent IAD in severe stroke patients with fecal incontinence, demonstrating that acupoint massage effectively prevented IAD.

5. Discussion

TCM external therapy encompasses numerous methods with specific advantages, demonstrating remarkable efficacy in IAD prevention and treatment that warrants promotion and reference. However, research on TCM external therapies for IAD prevention and treatment remains in its early stages, lacking large-sample, multicenter studies and systematic nursing protocols. Therefore, future research should involve continuous exploration and innovation by nursing professionals, attempting to apply more TCM external therapy methods for IAD prevention and treatment with more rigorous and comprehensive study designs to fully leverage the advantages of TCM external therapies and expand nursing perspectives. This will simultaneously explore new nursing methods for IAD patient prevention and treatment, reduce patient suffering, lower infection rates, shorten hospital stays, and improve nursing standards.

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