Clinical Observation and Nursing Care of Traditional Chinese Medicine Hot Compress Combined with Meibomian Gland Massage for Liver-Kidney Yin Deficiency Type Dry Eye Disease: A Postprint

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Abstract

Objective: To investigate the efficacy of traditional Chinese medicine hot compress combined with meibomian gland massage in alleviating discomfort symptoms in patients with dry eye disease of liver-kidney yin deficiency pattern. Methods: A total of 100 patients with liver-kidney yin deficiency dry eye disease admitted to our hospital from January 2020 to August 2020 were enrolled as study subjects. Using a randomized grouping method, the 100 patients were divided into an experimental group and a control group, with 50 cases in each group. The experimental group received traditional Chinese medicine hot compress combined with meibomian gland massage in addition to conventional treatment, while the control group received only conventional treatment. Both groups underwent treatment for 3 courses. Treatment outcomes and efficacy scores were compared between the two groups. Results: By comparing the treatment response rates and scores between the group receiving traditional Chinese medicine hot compress combined with meibomian gland massage intervention and the group without this intervention, the therapeutic effect in the experimental group was significantly superior to that in the control group, with higher efficacy scores, and the difference was statistically significant ($P<0.05$). Conclusion: In alleviating pain and other discomfort symptoms in patients with liver-kidney yin deficiency dry eye disease, the treatment method of traditional Chinese medicine hot compress combined with meibomian gland massage can effectively enhance therapeutic efficacy, help patients improve ocular conditions, and promote rapid recovery.

Full Text

Clinical Observation and Nursing Care of Traditional Chinese Medicine Hot Compress Combined with Meibomian Gland Massage for Liver-Kidney Yin Deficiency Dry Eye Disease

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Abstract

Objective: To investigate the efficacy of traditional Chinese medicine (TCM) hot compress combined with meibomian gland massage in alleviating discomfort symptoms in patients with liver-kidney yin deficiency type dry eye disease.

Methods: A total of [NUMBER] patients with liver-kidney yin deficiency dry eye admitted to our hospital in [MONTH] were selected as study subjects. Using a random grouping method, [NUMBER] patients were divided into an experimental group and a control group, with [NUMBER] cases in each group. The experimental group received TCM hot compress combined with meibomian gland massage plus conventional treatment, while the control group received only conventional treatment. Both groups underwent treatment for [NUMBER] courses. Treatment efficacy and therapeutic scores were compared between the two groups.

Results: Comparison of treatment response rates and scores between the experimental group receiving TCM hot compress combined with meibomian gland massage and the control group showed that the experimental group achieved significantly better treatment outcomes and higher efficacy scores, with statistically significant differences (P<).

Conclusion: The use of TCM hot compress combined with meibomian gland massage can effectively improve therapeutic efficacy and help patients with liver-kidney yin deficiency dry eye disease improve ocular condition and achieve rapid recovery.

Keywords: dry eye disease; traditional Chinese medicine hot compress; meibomian gland massage; pain relief; eye care

1. Materials and Methods

With technological development and social progress, changes in living environments and habits—including excessive electronic device use, smog, light pollution, and increasing life stress—have significantly increased the incidence of ophthalmic diseases. Accelerated population aging in China and the gradual "youngerization"of previously "geriatric diseases"have led to rising clinical proportions of dry eye disease and other ocular conditions among middle-aged, young, and elderly populations. These eye diseases are characterized by complex etiology

and prolonged healing courses, potentially affecting vision and presenting new challenges for clinical ophthalmic medical staff. How to improve treatment efficacy for ocular diseases has become a research focus for ophthalmic healthcare professionals [1]. Traditional treatment methods have limited effectiveness, and previous studies have confirmed that TCM hot compress combined with meibomian gland massage during dry eye treatment positively contributes to ocular condition improvement and eye health recovery [2-3].

This study investigates and analyzes the effects of TCM hot compress combined with meibomian gland massage in treating dry eye disease, observes its role in improving therapeutic efficacy, explores and summarizes nursing methods, and provides references for colleagues in various hospitals using this combined approach for dry eye treatment.

Study Design and Participants: Patients with liver-kidney yin deficiency dry eye admitted to our hospital in [MONTH] were selected as study subjects. Using a random number table method, [NUMBER] patients were randomly divided into an experimental group and a control group, with [NUMBER] cases in each group. The experimental group received TCM hot compress combined with meibomian gland massage plus conventional treatment, while the control group received only conventional treatment. Both groups were comparable in baseline characteristics ($P>0.05$). The study was approved by our hospital' s ethics review board, and informed consent was obtained from all patients and their families.

Diagnostic Criteria: (1) Subjective symptoms: bilateral dryness, foreign body sensation, burning sensation, itching, photophobia, scratching sensation, blurred vision, visual fluctuation, and asthenopia; (2) Ophthalmic examination: visible hyperemia and irregularity of the eyelid margin, protruding meibomian gland orifices, often blocked by yellow-white viscous secretions, with turbid yellow purulent or white foamy secretions expressible upon gland compression; (3) Dry eye examination: tear break-up time (BUT) test.

Treatment Protocols:

Conventional Treatment (Both Groups): (1) Dietary habits: Patients should maintain a light, easily digestible diet rich in protein (milk, eggs, etc.) and fresh fruits and vegetables to promote recovery and enhance resistance, while avoiding stimulating, greasy, and cold foods to ensure adequate ocular nutrition. (2) Cleaning care: Patients should promptly clean ocular secretions in daily life, maintain ocular hygiene, and prevent eye diseases. (3) Moderate physical exercise: Appropriate exercise maintains physical vitality and ligament flexibility, promotes blood circulation, and accelerates health recovery. (4) Timely eye drop administration: Strict adherence to prescribed eye drop schedules effectively alleviates dry eye symptoms, controls disease manifestations, and reduces recurrence. Patients should communicate promptly with physicians about recovery status for timely medication adjustments and adjunctive therapies [4].

Experimental Group (TCM Hot Compress Combined with Meibomian Gland

Massage): (1) Eyelid margin cleaning: Performed by ophthalmic nurses in the treatment room once weekly. Sterile cotton swabs dipped in normal saline were used to clean scales and debris from the eyelid margin and eyelash roots. (2) TCM hot compress: TCM powder was placed in pre-sewn sterile medical packs, then into cloth bags. When used, the pack was heated to 40-45°C. Patients assumed a supine position with a towel covering the neck, and the hot compress was applied to the eyes with instructions to keep eyes closed. Initially, when the pack temperature was high, nurses applied intermittent pressure with both hands; as temperature decreased, the pack could remain on both eyes for 15-20 minutes until the eyelid skin became slightly flushed. (3) Meibomian gland massage: Following hot compress treatment, proparacaine was instilled for topical anesthesia, then meibomian gland therapy was performed to remove orifice obstruction and express secretions. Using sterile cotton swabs, pressure was applied sequentially along the upper and lower eyelid gland pathways to express secretions from the gland orifices, followed by levofloxacin eye drops to clean post-treatment secretions.

Outcome Measures: Treatment efficacy was evaluated after [NUMBER] treatment courses. Markedly effective: dry eye symptoms significantly alleviated, no special secretions expressed from gland orifices upon compression, BUT>10s. Effective: symptoms significantly alleviated, no or minimal secretions expressed, 5s<BUT<10s. Ineffective: symptoms not significantly alleviated, numerous secretions expressed, BUT<5s. Total effective rate = (markedly effective + effective)/total number × 100%. A questionnaire survey was designed to analyze pain relief and treatment effects, including treatment efficacy scores and patient satisfaction using a three-level scoring system through semi-structured interviews.

Statistical Methods: Study data were analyzed using SPSS statistical software. Categorical data were analyzed using chi-square tests, with $P<0.05$ considered statistically significant.

2. Results

Following intervention with TCM hot compress combined with meibomian gland massage in the experimental group and conventional treatment alone in the control group, questionnaire surveys and data collection were conducted and analyzed, yielding the following results:

shows the treatment outcomes comparison between the two groups, demonstrating significantly higher total effective rate in the experimental group compared to the control group, with statistically significant differences ($P<0.05$).

presents patient satisfaction survey results, showing significantly higher total satisfaction rate in the experimental group compared to the control group, with statistically significant differences ($P<0.05$).

3. Discussion

Dry eye disease is a condition characterized by ocular discomfort resulting from abnormal tear quality and quantity, photodynamic tear film imbalance, and ocular surface damage. Contributing factors are numerous, with classical classification generally including aqueous-deficient and evaporative types. The former refers to dry eye caused by lacrimal gland pathology, while the latter generally results from meibomian gland dysfunction (MGD). Clinically, evaporative dry eye caused by MGD is more common. MGD is the primary cause of evaporative dry eye disease, referring to meibomian gland lesions and functional impairment from various causes, with duct obstruction and abnormal lipid secretion being the most significant influencing factors [5]. MGD is a chronic, diffuse meibomian gland functional abnormality characterized by terminal duct obstruction, preventing normal lipid secretion, with changes in secretion quantity and quality being key features [6]. Though not life-threatening, MGD severely impacts patients' quality of life [7].

Currently, mild dry eye disease is treated conservatively with biological and physical therapies, including eye drops, while severe cases require surgical intervention. Addressing underlying causes with appropriate management is crucial for improving treatment outcomes. Eyelid cleaning to remove oily secretions, bacterial colonies, and debris from the eyelash base effectively prevents meibomian gland orifice obstruction and promotes secretion expulsion. This study explored a more efficient treatment method by investigating the efficacy of TCM hot compress combined with meibomian gland massage for dry eye disease, with results showing significantly higher treatment efficacy and satisfaction rates in the experimental group compared to the conventional treatment group.

For liver-kidney yin deficiency dry eye, the TCM hot compress formula includes Lycium barbarum, chrysanthemum, Dendrobium, Polygonatum odoratum, mulberry leaf, Adenophora tetraphylla, Ophiopogon japonicus, and mint. Lycium barbarum nourishes liver and kidney, benefits essence and improves vision; Dendrobium, Polygonatum odoratum, Adenophora tetraphylla, and Ophiopogon japonicus clear heat, moisten dryness, and nourish yin to generate fluids; chrysanthemum, mulberry leaf, and mint dispel wind-heat, moisten dryness, and brighten vision, collectively achieving dry eye symptom relief. Hot compress increases local skin temperature, facilitating lipid production and excretion while improving local blood circulation and metabolism. Meibomian gland massage promotes secretion expulsion and clears obstructed ducts [8-9]. In this study, the experimental group achieved a total treatment effective rate of [NUMBER]%, significantly higher than the control group' s [NUMBER]%, with a satisfaction rate of [NUMBER]%, demonstrating statistically significant differences ($P<0.05$). These results confirm that TCM hot compress combined with meibomian gland massage effectively alleviates dry eye symptoms and improves treatment efficacy.

TCM external therapy is a treasure of traditional Chinese medicine. Multiple

studies have demonstrated its effectiveness in treating various chronic diseases, often achieving excellent results in assisting conventional treatment and alleviating symptoms. This study confirms that TCM hot compress combined with meibomian gland massage effectively relieves pain and discomfort in dry eye patients, improves efficacy, and helps restore ocular condition. These findings reveal the clear positive role and application value of TCM therapy in dry eye disease management.

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Note: Figure translations are in progress. See original paper for figures.