

Perspective

Possible Effects of Balneotherapeutic Methods in the Treatment of Psoriasis and Eczema

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Abstract

Psoriasis and eczema are among the most common diseases in humans and similar skin disorders are frequently encountered in animals. Many factors play a role in the etiology of these diseases. Although many methods and drugs have been tried in treatment, the disease is completely untreatable and repeatedly observed. Although balneotherapeutic methods have been used in people's skin diseases for many years and successful results have been obtained, these treatments often lack scientific grounds. A small number of studies on this subject are insufficient. The purpose of this review is to provide to promote of using the balneotherapeutic methods in human and animal health.

Keywords: Psoriasis; Eczema; Balneotherapy

Introduction

Psoriasis is a universal chronic skin disease known since antiquity, which has an incidence rate to poles with the lowest incidence rate in the equator, with significant geographic variability [1]. The disease is the most common autoimmune disease in humans and is characterized by continuous squatting and variable erythema combined with increased cutaneous plaques. Although the specific pathogenesis of psoriasis is not fully understood, it is believed that a complex interplay of epidermal keratinocytes, T-lymphocytes and other leukocytes (dendritic cells, other antigen presenting cells, and vascular endothelium in aetiology) is believed to play a role [2].

Numerous spontaneous or genetically mutated mutations in rodents, immunologic reconstitution approaches or xenotransplantation models, specific pathways to Pathophysiology and treatment of psoriasis highlight the specific directions of rodents, although there is no naturally occurring disorder in laboratory animals that mimic the complex phenotype of psoriasis [3].

Eczema is also a chronic skin disease and is a classic skin inflammation that is commonly seen as widespread itching, infiltration, deep thickening and roughness. The disease seriously affects the quality of life of the patients [4,5]. Chronic eczema pathogenesis is highly complicated, mainly due to metabolic abnormalities, endocrine dyscrasias, diseases of the digestive system, viruses and bacteria in the external environment, temperature and

humidity, and foreign body allergenicity and stress [6-8]. Although some externally used medications temporarily treat the symptoms of the disease, the symptoms of the disease may recur after a while.

Balneotherapy has been used for centuries and remains a popular form of treatment for dermatologic and rheumatologic diseases today. Although the favorable climates of balneotherapy have been known to have beneficial effects on psoriasis and atopic dermatitis, the thermal spring waters themselves could also potentially reduce skin inflammation like eczema [9].

Balneotherapy including mud therapy have been used empirically from time to time to treat a wide range of conditions. This therapy method is an effective, well tolerated and complementary approach in the treatment of many pathologies, especially of skin and rheumatic disorders, which is associated with chronic inflammation such as cardiovascular, respiratory, gastrointestinal, endocrine and neurological conditions [10].

Recent evidence emphasizes that SPA therapy is useful in many medical conditions ranging from rheumatic and musculoskeletal disorders to respiratory, circulatory, digestive and nerve disorders [11,12]. Deep absorption of biologically active inorganic and organic substances also plays a role in the efficacy of balneotherapy. *In vitro* and *in vivo* studies seem to be the basic mechanism responsible for the penetration of some water-soluble minerals into human skin and for improving some clinical outcomes in both clinical and balneotherapy and mud therapy. It is not only linked to heat action [13]. As a matter of fact, minerals such as magnesium, sulfur, selenium, calcium and zinc are directly related to the structure of the skin and there may be regional changes in the SPA sludge [14,15].

Many clinical therapeutic uses of selenium-rich water balneotherapy, including atopic dermatitis (eczema), psoriasis, wound healing, burn scars, pruritus and other rosacea as well, are very responsible. For example (PASI score) was reduced by 47% ± 4% (P <0.05). Interestingly, 8% of patients were completely cleared and 48% improved by more than 50% [16]. It was reported that the complex spa therapy used during the rehabilitation is an effective tool

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to reduce the symptoms of psoriasis and improve the patient's well-being after 3 weeks treatment concluded that bathing in this source could be beneficial [17,18]. As nitrate concentration is close to the highest standard concentration for drinking water, it can be used in chronic dermatitis, psoriasis, burns, and allergy. Furthermore, the antibacterial and antifungal effects of sulfur-containing water in this source can be helpful in the treatment of leg ulcers, tinea versicolor, tinea corporis, and tinea capitis.

Although there are not many common diseases in both diseases, there is a strong need to establish animal models of these diseases and to determine the therapeutic activities of balneotherapeutic methods. As a matter of fact, besides being beneficial for human health, balneotherapeutic methods may also have considerable therapeutic effects in animals that develop similar diseases.

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