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Review Article

Nurse-Led Psoriasis Skin Care Treatment in China

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Abstract

This article will specifically explore the skin care of psoriasis patients focusing on the application of topical therapies and phototherapy. A good skin care regime is key to controlling psoriasis. Phototherapy is an effective treatment for inducing remission of psoriasis. The article summarizes the methods and procedures of skin care treatment in dermatology units, emphasizing that correct skin care is the basic management for psoriasis which can effectively repair skin barrier function.

Keywords: Nurse-led Skin Care; Psoriasis; China

Introduction

Psoriasis is a chronic, non- infectious, inflammatory, immune-mediated skin condition with episodes of remission and recurrence throughout life, induced by the combination of heredity and environment. Typical clinical manifestations are scaly, erythematous plaques which can occur on all areas of the body, with limited or wide distribution. Additionally, psoriasis has been associated with significant impairment in quality of life (Reference Finlay and Khan). Patients will require education in order to develop techniques to manage the condition.

Psoriasis is common that an estimated 29.5 million adults across the world suffered from psoriasis in 2017. In China, 2.3 million adults suffer from psoriasis, third in rank by country, after the USA and India [1]. A systematic review of 76 epidemiological studies of psoriasis from 20 countries found that the estimated prevalence of psoriasis among children was around 1.37%; among adults, the prevalence ranged from 0.51% to 11.43% [2]. This causes a significant burden on the healthcare systems of all countries.

One of the main challenges of psoriasis management is to control the condition and prevent recurrence. A good skin care routine not only helps to treat psoriasis, but also more importantly, prevents recurrence of psoriasis through protecting the skin barrier [3,4].

Nurse-led skin care procedure

Topical skin care for psoriasis in China includes a good emollient regime. Dermatology department advocates cleansing the skin and moisturizing in addition to active topical, systemic, or phototherapy treatments. In China patients with psoriasis are fortunate enough to be admitted to a dermatology ward for intensive therapy in addition to attending the day care unit.

Skin Cleansing

Cleaning is the foundation of psoriasis skin care. Scaling is the "medium" of various pathogens, hindering the normal physiological functions of the skin and mucous membranes. It affects sweat gland secretion and simultaneously activates the natural immune system, leading to the prolongation and recurrence of psoriasis.

Choose the right skin cleanser

There are many products available to cleanse the skin and patient choice of product is important. However, patients in China have to pay for topical treatments, so it is preferred to shower or bathe in plain water only, as this does not incur a cost. In Europe and UK, patients are entitled to free prescriptions so will have a regular amount of emollients supplied. Cost is still an issue however as local Health Boards will often prescribe the cheaper product and not necesarily the one that the patient prefers. Emollient wash products (including bath and shower products) which both moisturize and cleanse are the best for psoriasis patients.

Cleansing method

Ideally, the water temperature should between 35~37°C. This is appropriate in order to avoid vasodilation and increased itch. The higher water temperature would increase water loss through the skin by evaporation.

Bath time should be a maximum of 15 minutes as prolonged soaking of the skin could disrupt barrier function.

Daily bathing or showering is generally advocated. It can be increased to twice a day if the plaques are very thick. Soap and bubble bath should be avoided as these remove the natural lipids on the skin surface and destroy the skin barrier function.

Avoid excessive rubbing during bathing; Using a soft, dry, cotton towel will minimize trauma to skin.

Emollient Use

Skin moisturizing principle

Skin moisturizing is a 'life-long' work.

Emollient selection

Firstly, the emollient should be clinically proven to have an

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adjuvant treatment for psoriasis. Personal comfort and affordability in China are also important influencing factors. As in Europe and UK, patients will generally use the emollient they prefer.

Timing of emollient application

Apply after bathing: It is the optimum time to use after bathing (within 3 minutes). It is easily absorbed by the stratum corneum of the skin, and the humidity of the skin is also conducive to application at this time.

Apply after phototherapy: It can not only relieve dry skin, but also slow down the possible skin irritation after phototherapy.

Apply before sleep: The skin is in a non-dominant dehydration state at night, and the lost water increases as the ambient temperature increases. It can reduce water loss with applying before sleep.

Apply on demand, with individual differences: The patient can use it when their skin feels dry and uncomfortable.

Frequency of emollient application

Once or twice a day or increase the frequency according to the hydration of the skin. The principle is always to keep the skin moisturized.

Dosage of emollient

In order to obtain the best therapeutic effect, the dosage of the emollient should depend on the degree of dryness of the skin, the body surface area and the stage of the psoriasis. The dosage regimen can be tailored to the patient's general condition, with the principle that the skin is always moisturized. Adults are generally recommended to use about 30~50 mL in a single use, weekly dosage recommended 400~700 mL. 0 to 1 year old, 10mL once (100mL weekly); 2 to 3 years old, 15mL once (200mL weekly); 4 to 6 years old, 20mL once (300mL weekly); 7 to 10 years old, 25mL once (350mL weekly); 10 years old to adults, 30mL once (400mL weekly).

Emollient application in relation to other topical therapies

The time between emollient application and therapeutic topical products (such as topical steroid creams) is generally 30~60 minutes in China. During an acute flare, the therapeutic topical products should be used before the emollient therapy (the steroid creams will not be diluted by the emollients). When psoriasis has calmed down, the regime changes slightly and the therapeutic topical products are applied after the emollient.

Method of emollient application

Emollient should penetrate the skin smoothly in the direction of hair growth. In China nurses gently massage skin until emollients and steroid creams are completely absorbed. Applying against the direction of the hair may cause folliculitis, especially when using an ointment emollient. Patients then put on clothes. Sometimes nurses apply them on the thick layer on the skin in the hair growth and then covered with net bandages at night.

Area of emollient application

The skin is the largest organ in the body, so consider treating the whole skin surface, not just the affected area. More focus should be applied to the skin which is most prone to dehydration, such as the limbs.

Precautions for emollient application

- **Use a pump dispenser:** The advantage of the pump dispenser is that it is easy to quantify the amount, without contamination of the emollient. However, it is not suitable for ointment emollients. If it is a non-pump product, use a clean spoon to remove the required amount each time. Using fingers directly into the pot could contaminate the product with scales.

- Hands should be kept clean to prevent cross-contamination, keep the nails short and smooth to avoid scratching the skin.

- It is possible for mild irritation to occur when using emollients if the skin inflammatory response is severe. If this is the case consider switching to other emollient products. As the skin condition improves, the irritation generally disappears. If the irritation persists, it is recommended to discontinue and consult a dermatologist.

Topical Therapy Use

Topical drugs should be gradually reduced

Initially topical steroid cream is used once daily. Frequency is gradually reduced to once every other day after 1 to 2 weeks, and then treatment is reverted back to emollients. Topical application of steroids should be discontinued when the skin condition has cleared.

Application techniques

In China the procedure is as follows. The required amount of topical cream is squeezed into the palm of the hand and rubbed between hands for 3 to 5 seconds for preheating. It is not directly applied to the surface of the patient's skin as this can cause cold irritation and discomfort. Distribute the topical cream onto the rash and massage 5~10 times in a segmented circular motion until the cream is fully absorbed; Massage should be concentrated on the severe rash. The order of application generally is: trunk - upper limb - lower limb. Also we can apply the cream from the most severe part to the least. According to the severity of the skin condition, the time required for the application varies, generally around 20 ~ 30 minutes, and the cream should be fully massaged until it is absorbed by the skin.

Patient position for application

The position of the patient during application can be sitting, standing or lying according to the age, physical condition and tolerance of the patient. The principle is to keep patient comfortable and safe.

In general, young and middle-aged patients and those in good health condition can choose the standing or sitting position. It is recommended to choose a lying position for elderly patients and those in poor physical condition who are unable to tolerate upright positions. Pay attention to protect the patient's privacy and comfort when applying. Ensure patient warmth in the autumn and winter.

Steroid Dose measurement by the fingertip unit

It is important to use the right amount. The standard measurement often used is the Fingertip Unit (FTU) [5]. One FTU is the amount of steroid squeezed from a standard tube along the fingertip of an adult's index finger. The fingertip is from the end of the finger to the first crease on the finger. When applied to the skin, one FTU is enough to treat an area of skin twice the size of an adult's hand with the fingers

together. In cases of the whole body rash, the doctor would prescribe the specific amount of grams of the steroid to be administered at each application. The whole body application can use the proportional distribution method according to the prescribed amount, 15% the upper limbs, 55% the trunk and 30% the lower limbs.

Scalp care

Topical corticosteroids are fast acting to psoriasis of the scalp: within 1 to 2 weeks maximal efficacy is reached. Then we can replace with non-steroid tincture or use in combination. Hair needs to be cleaned and cut short if patients accepted.

Wrap Therapy

Wrap therapy is generally defined as a treatment modality using layers of cling film, bandages, cotton clothing, or gauze over or together with topical medication. Specialized nursing care and education is important to ensure proper use of WT. The primary method of WT used in the treatment of psoriasis in China is a single, plastic layer wrap applied over topical medication or emollients on the skin. The plastic layer was used historically over a variety of topical preparations to assist in absorption. It also acts as a protective barrier from the trauma associated with scratching in pruritic skin disorders.

Phototherapy Care

Narrow Band Ultra Violet B Light (NB-UVB) is also the preferred treatment for psoriasis and has few adverse reactions in China. Psoralen with Ultra Violet a Light (PUVA) may be considered when UVB therapy fails.

Treatment of NB-UVB in China: The patient's MED is first determined; the initial dose is irradiated with 50-70% MED; and the treatment is performed 3 times per week. Increase the previous dose by 10-20% or used the fixed dose (0.05J/cm^2 or 0.1J/cm^2) according to the patient's response after irradiation. Treatment can be increased incrementally if there is no obvious erythema since the last treatment. If mild erythema appears, repeat previous dose. If moderate or severe erythema appears, postpone treatments until completely settled. Once settled, the dose should be reduced by 10-20% of the previous dose. If painful erythema or blisters occur, phototherapy should be stopped.

Phototherapy (up to 30 times in a UVB course for psoriasis) usually should be stopped directly when the rash clears without the dose reduction because it should be limited the total therapy times to prevent the skin cancer in the later life. We found the good effect in reduction for psoriasis, but it is necessary for us to do the retrospective study of the incidence of skin cancer in psoriasis patients after long-term phototherapy.

Before phototherapy, you should carefully understand the patient's current medication and check light-sensitive drugs including traditional Chinese medicine and health care products. It is not advisable to apply any topical medication or emollients before phototherapy as your skin may become sensitive to the UV light. All patients must wear UV opaque goggles in the cabinet. Face shield should also be worn, unless significant lesions present on face. Men must shield their genital area with a sock, jock strap or underpants whilst in the cabinet. Use emollient immediately after phototherapy to decrease skin irritation and dry skin. UVB is safe for pregnant women but PUVA is not.

The short term risks of phototherapy include moderate-to-severe erythema, tenderness, pain, tightness, itching, and rarely blistering of skin. Normally, if a burn is secondary to light treatment, it will become noticeable 4–6h after the phototherapy session. If patient experience any of the signs or symptoms of burning, they should promptly apply a topical steroid to the affected skin in an effort to lessen the burn. Patients are also encouraged to call their phototherapy clinic for further assistance if needed.

The long term risks of phototherapy include skin ageing, wrinkling, tanning and skin cancer in later life. Risks can be minimized with strict protocols of treatment.

Patient Education

- **Inform the "three aspects" of psoriasis management:** Long-term skin care regime; step-down reduction of topical medication; intermittent phototherapy.
- Promote a "comfortable life"- adequate sleep, stress management, mental wellbeing and relaxation. This is helpful to avoid recurrence of psoriasis.
- **Diet should be individualised:** Excessive dietary restrictions can lead to malnutrition and be detrimental to physical health and recovery. As for what kind of food to avoid, it depends on your own experience and varies from person to person.
- **Encourage patients not to scratch:** Scratching, trauma, abrasions, etc. can induce or aggravate psoriasis.
- **Avoid triggers:** Infection; dry environment; cold weather; sleep deprivation; stress.
- Regular outpatient follow-up.

Conclusion

Most patients with psoriasis can be managed effectively in primary nursing care through the persisting skin care in China. Moreover, the patients can identify strategies and discuss with the dermatology nurses that could enable them to become more effective in self-managing skin care. There is a need to incorporate these strategies in 'skin care plans' in order to support individuals to self-manage as effectively as possible to help improve their skin condition and quality of life.

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