Skin Conditions II

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Psoriasis

Psoriasis is an immune-mediated disease, immune system and genetics play major roles in its development. Usually, something triggers psoriasis to flare. The skin cells in people with psoriasis grow at an abnormally fast rate, which causes the buildup of psoriasis lesions.
Psoriasis is not contagious. It is not something you can "catch" or that others can catch from you. Psoriasis lesions are not infectious.

What you need to know

Appearance
In its most common form there are raised, large, red, scaly patches/plaques over the extensor surfaces of the elbow and knee, the patches are symmetrical. The scalp is often involved. Psoriasis can affect also the flexor surfaces, the groin area, palms, soles and nails.

Severity
Severity of psoriasis is based on how much of the body is affected by psoriasis. The entire hand (the palm, fingers and thumb) is equal to about 1 percent of your body surface area.
However, the severity of psoriasis is also measured by how psoriasis affects a person's quality of life. For example, psoriasis can have a serious impact on one's daily activities even if it involves a small area, such as the palms of the hands or soles of the feet.

Diagnosis
There are no special blood tests or tools to diagnose psoriasis. A dermatologist or other health care provider usually examines the affected skin and determines if it is psoriasis.
Doctor may take a piece of the affected skin (a biopsy) and examine it under the microscope. When biopsied, psoriasis skin looks thicker and inflamed when compared to skin with eczema.
Doctor also will want to learn about the family history. About one-third of people with psoriasis have a family member with this disease.
In 7% of people who have psoriasis there is an associated arthritis, which usually affects a single joint but can be more severe and identical to rheumatoid arthritis.

Types of Psoriasis
Plaque Psoriasis
Plaque psoriasis is the most common form of the disease and appears as raised, red patches covered with a silvery white buildup of dead skin cells. These patches or plaques most often show up on the scalp, knees, elbows and lower back. They are often itchy and painful, and they can crack and bleed.

Guttate Psoriasis
Guttate psoriasis is a widespread rash of small, scaly patches develops abruptly, affecting large areas of the body. This most typically occurs in children or young adults and may be triggered by a streptococcal sore throat.

Inverse Psoriasis
Inverse psoriasis shows up as very red lesions in body folds, such as behind the knee, under the arm or in the groin. It may appear smooth and shiny. Many people have another type of psoriasis elsewhere on the body at the same time.

Pustular Psoriasis
Pustular psoriasis in characterized by white pustules (blisters of non-infectious pus) surrounded by red skin. The pus consists of white blood cells. It is not an infection, nor is it contagious. Pustular psoriasis can occur on any part of the body, but occurs most often on the hands or feet.

Erythrodermic Psoriasis
Erythrodermic psoriasis is a particularly severe form of psoriasis that leads to widespread, fiery redness over most of the body. It can cause severe itching and pain, and make the skin come off in sheets. It is rare, occurring in 3 percent of people who have psoriasis during their life time.

Medication
Some medications may cause a flare of psoriasis as lithium, beta-blockers, non-steroidal anti-inflammatory drugs and anti-malarials.

Management
Management is dependent on many factors, e.g. nature and severity of psoriasis, understanding the aims of the treatment, ability to apply creams and whether the person is pregnant (as some treatments are teratogenic).

Topical treatments
The doctor is likely to offer a topical treatment, usually an emollient alone or in conjunction with active therapy. Emollients are important in psoriasis and may be underused.

Calcipotriol or Tacalcitol
Vitamin D derivatives are available as *calcipotriol* or *tacalcitol*. This does not smell or stain and has been widely used in the treatment of mild-to-moderate psoriasis. A systematic review has shown it to be as beneficial in efficacy as *dithranol*. If overused, there is a risk of causing hypercalcaemia. It is available as a scalp application as well as an ointment.

Topical steroids
Topical steroids should generally be restricted to use in the flexures or on the scalp. Although effective in suppressing skin plaques on the body, large amounts are required over time as the condition is a chronic one, resulting in severe steroid side-effects (striae, skin atrophy and adrenocortical suppression). Also, stopping steroid preparations can result in a severe flare-up of the psoriasis. There is a combination cream with *betamethasone* and *calciptriol*, which is effective but licensed for use only on up to 30% of body surface for up to 4 weeks.

Dithranol

Dithranol has been a traditional, effective and safe treatment for psoriasis and is available as proprietary creams (0.1–2.0%) which can be used for one short-contact (30-min) period each day and removed using an emollient. Some people are very sensitive to *dithranol* as it can cause quite severe skin irritation. It is usual to start with the lowest concentration and build up slowly to the strongest that can be tolerated. Users should wash their hands after application. It should not be applied to the face, flexures or genitalia. There are some people who are unable to tolerate it at all.

Second-line treatment

Referral by a doctor to a dermatologist may be necessary when there is diagnostic uncertainty, when the doctor's treatment fails or in severe cases. Second-line treatment may include phototherapy or systemic therapy with *methotrexate*, *etretinate* or *ciclosporin* (*cyclosporin*). Unfortunately, all of these have potentially serious side effects. *Methotrexate* has been shown to be effective in non-randomised trials but relapse usually occurs within 6 months of discontinuation. Long-term *methotrexate* treatment carries the risk of liver damage.

Corn and Calluses

Corn form due to a combination of friction and pressure against one of the bony prominences of the feet. Inappropriate footwear is the frequent cause. (Continued pressure and friction cause hyperkeratosis). Friction (caused by loose fitting shoes and walking barefoot contribute to the development of calluses).

A-Clinical Features

1-Corns:

Corns have been classified into soft and hard corn.

Hard corns are generally located on the top of the toes. Soft corns form between the toes rather on the top of toes and are due to pressure exerted by one toe against another. Soft corns are most common in the fourth web space (they have whitened appearance and remain soft because of the moisture that is present between toes, which cause maceration of the corn).

2-Calluses:

Calluses are more diffuse areas of thickening on the sole or the side of the foot. Calluses appear as flattened, yellow-white, thickened skin. In women, the balls of the feet are a common site. Other sites that can be affected are the heel and lower border of the big toe.

B-Pain:

The resulting pain from corns may be severe and sharp (when downward pressure is applied) or dull and discomforting. Pain experienced with corns is a result of pressure between footwear and the toes. If footwear is taken off, then the pain is relieved. Patients with calluses frequently complain of a burning sensation resulting from fissuring of the callus.

C-Previous history:

Patients will often have a previous history of foot problems. The cause is usually due to prolonged wearing of poorly fitting shoes, such as high heels.

Treatment timescale:

Patient should seek medical attention if corn or callus is not removed after 14 days of treatment.

Treatment

Nonpharmacologic Therapy

A-Selection of the properly fitted footwear.

B-Epidermabrasion:

Epidermabrasion is a physical process that removes horny skin using a mechanical aid. Several gently abrasive materials and appliances are available, including foot files, pumice stones and synthetic pumice-like blocks.

Careful technique is important for the safe and successful removal of corns and calluses, using the following procedure:

–To soften the skin, soak the foot in mild soapy water for a few minutes or apply a moisturizing or softening cream.

–Rub soap on to the appliance and gently rub the corn or callus for 5 minutes.

–Repeat the process nightly for 1 week, then review. There is no need to remove the hard skin completely, just enough to relieve pain or irritation.

Pharmacologic Therapy

Salicylic acid

1-Salicylic acid in collodion –like vehicle

Paints and liquids contain 11–17% salicylic acid, often in a collodion-based vehicle. Collodions contain a nitrocellulose derivative, dissolved in a volatile solvent. On application, the solvent evaporates, leaving on the skin an adherent, flexible, water-repellent film containing the medicament.

Apply product once or twice daily until the corn or callus is removed (but not more than 14 days).

Note: do not let adjacent area of normal skin come in contact with drug. If they do, wash off the solution immediately with soap and water.

2- Salicylic acid plasters: Corn and callus plasters contain high concentrations (usually 40%). They should be changed every 1–2 days for about a week, after which the callosity should lift away easily.

3-An ointment containing 50% salicylic acid is also available; it should be applied nightly for 4 nights.

Warts and verrucae

Warts and verrucae are caused by a human papilloma virus HPV of the skin and have a high incidence in schoolchildren. Once immunity to the infecting virus is sufficiently high, the lesions will disappear, but many patients and parents prefer active treatment for cosmetic reasons.
HPV infection is very contagious; infection is easily spread from one site to another on an infected person, and from one person to another.

Patient Assessment

Age
Warts can occur in children and adults; they are more common in children and the peak incidence is found between the ages of 12 and 16 years. The peak incidence is thought to be due to higher exposure to the virus in schools and sports facilities.

Appearance
Warts appear as raised lesions with a roughened surface that are usually flesh coloured. Plantar warts occur on the weight-bearing areas of the sole and heel (verrucae). They have a different appearance from warts elsewhere on the body because the pressure from the body's weight pushes the lesion inwards, eventually producing pain when weight is applied during walking. Warts have a network of capillaries and, if pared, thrombosed, blackened capillaries or bleeding points will be seen. The presence of these capillaries provides a useful distinguishing feature between callouses and verrucae on the feet: if a corn or callous is pared, no such dark points will be seen; instead layers of white keratin will be present. Warts may occur singly or as several lesions.

Location
The palms or backs of the hands are common sites for warts, as is the area around the fingernails. People who bite or pick their nails are more susceptible to warts around them.Warts sometimes occur on the face and referral to the doctor is the best option in such cases. Since treatment with OTC products is destructive in nature, self-treatment of facial warts can lead to scarring and should never be attempted. Parts of the skin that are subject to regular trauma or friction are more likely to be affected, since damage to the skin facilitates entry of the virus. Plantar warts (verrucae) are found on the sole of the foot and may be present singly or as several lesions.

Anogenital
Anogenital warts are caused by a different type of human papilloma virus and require medical referral for examination, diagnosis and treatment. They are sexually transmitted and patients can self-refer to their local genitourinary clinic.

Duration and history
It is known that most warts will disappear spontaneously within a period of 6 months to 2 years. The younger the patient, the more quickly the lesions are likely to remit. Any change in the appearance of a wart (wart that have grown and changed color) required referral.

Medical & Medication History

- Diabetic patients should not use OTC products to treat warts or verrucae since impaired circulation can lead to delayed healing, ulceration or even gangrene. Peripheral neuropathy may mean that even extensive damage to the skin may not provoke a sensation of pain.

- Warts can be a major problem if the immune system is suppressed by either disease (e.g. HIV infection and lymphoma) or drugs (e.g. ciclosporin (cyclosporin) to prevent rejection of a transplant).
- The pharmacist should ask whether any treatment has been attempted already and if so, its identity and the method of use. Commonly, treatments are not used for a sufficiently long period of time because patients' expectations are often of a fast cure.

When to refer

Children under 4 years
Changed appearance of lesions: size and colour
Bleeding
Itching
Genital warts
Facial warts
Immunocompromised patients

Treatment timescale

Treatment with OTC preparations should produce a successful outcome within 3 months; if not, referral is necessary.

Management

A- There is a line of treatment aims to reduce the size of the lesion by gradual destruction of the skin. Continuous application of the selected preparation for several weeks or months may be needed and it is important to explain this to the patient if compliance with treatment is to be achieved. Surrounding healthy skin should be protected during treatment.

1. Salicylic acid

Salicylic acid may be considered to be the treatment of choice for warts; it acts by softening and destroying the skin, thus mechanically removing infected tissue. Preparations are available in a variety of strengths, sometimes in collodion-type bases that help to retain the *salicylic acid* in contact with the wart. *Lactic acid* is included in some preparations with the aim of enhancing availability of the *salicylic acid*. It is a keratolytic and has an antimicrobial effect. Ointments, gels and plasters containing *salicylic acid* provide a selection of methods of application.

2. Cryotherapy

Dimethyl ether propane can be used to freeze warts and is available in an application system for home use or by a doctor for adults and children over 4. The wart should fall off about 10 days after application.

3. Formaldehyde & Glutaraldehyde

Their gel preperation can be used for the treatment of verrucae but considered to have an unpredictable action and are not first-line treatments for warts, though they may be useful in resistant cases.

B- Another line of treatment act as immune response modifier

1. Aldara (imiquimod)

Aldara indicated for genital warts, superficial basal cell carcinoma and actinic keratosis (a condition caused by too much sun exposure) on the face and scalp. It treats genital and anal **warts** by increasing the activity of the body's immune system

2. Molutrex

Molutrex indicated for treatment of Molluscum contagiosum virus (MCV) (sometimes called water **warts**), which is a highly contagious viral skin condition.

Molutrex contains a stable solution of potassium hydroxide. This agent has been used for many years in medical laboratories as it is capable of breaking down the hard keratin surface of the skin. When painted onto the molluscum blisters this sets off an irritant reaction which stimulates the body's own immune system to attack the virus. The virus is destroyed and the blisters heal.

C- Podofilox (active ingredient **podophyllotoxin)** a medicine derived from the roots of the podophyllum plant. The solution is applied directly to genital warts. It **works** by penetrating the wart tissue and preventing the wart cells from dividing and multiplying (It acts by binding to tubulin to prevent the formation of microtubules, which results in mitotic arrest).

Cold Sores

Cold sores (herpes labialis) are caused by one of the most common viruses affecting humans worldwide. The virus responsible is the herpes simplex virus (HSV) of which there are two major types: HSV1 and HSV2. HSV1 typically causes infection around or in the mouth, whereas HSV2 is responsible for genital herpes infection. Occasionally, however, this situation is reversed with HSV2 affecting the face and HSV1 the genital area.

Patient Assessment

Age and Duration

Cold sores are most commonly seen in adolescents and young adults. Following the primary attack, the virus is not completely eradicated and virus particles lie dormant in nerve roots until they are reactivated at a later stage. Recurrent cold sores occur in up to 25% of all adults and the frequency declines with age, although cold sores occur in patients of all ages. The incidence of cold sores is slightly higher in women than in men.

In active primary herpes infection of childhood, the typical picture is of a febrile child with a painful ulcerated mouth and enlarged lymph nodes. The herpetic lesions last for 3–6 days and the infection is resolved within 1–2 weeks.

Symptoms and appearance

The symptoms of discomfort, tingling or irritation (prodromal phase), may occur in the skin for 6–24 h before the appearance of the cold sore. The cold sore starts with the development of minute blisters on top of inflamed, red, raised skin. The blisters may be filled with white matter. They quickly break down to produce a raw area with exudation and crusting by about the fourth day after their appearance. By around 1 week later, most lesions will have healed. Cold sores are extremely painful and this is one of the critical diagnostic factors. When a cold sore occurs for the first time, it can be confused with a small patch of impetigo. Impetigo is usually more widespread, does not start with blisters and has a honeycoloured

crust. Impetigo tends to spread out to form further patches and does not necessarily start close to the lips. It is less common than cold sores and tends to affect children. Since impetigo requires either topical or oral antibiotic treatment, the condition cannot be treated by the pharmacist. If there is any doubt about the cause of the symptoms, the patient should be referred.

Location

Cold sores occur most often on the lips or face. Lesions inside the mouth or affecting the eye need medical referral.

Precipitating factors

It is known that cold sores can be precipitated by sunlight, wind, fever (during infections such as colds and flu) local trauma to the skin and menstruation (hormonal changes). Physical and emotional stress can also be triggers. These information is usually helpful for the sufferer.

Previous history (help in diagnosis)

If a sore keeps on returning in the same place in a similar way, then it is likely to be a cold sore. Most sufferers experience one to three attacks each year. Cold sores occur throughout the year, with a slightly

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increased incidence during the winter months. Information about the frequency and severity of the cold sore is helpful when recommending referral to the doctor, although the condition can usually be treated by the pharmacist. In patients with atopic eczema, herpes infections can be severe and widespread. Such

patients must be referred to their doctor.

Medication

You need to know what medication used in previous episodes and what, if anything, helped last time. Immunocompromised patients, e.g. those undergoing cytotoxic chemotherapy, are at risk of serious infection and should always be referred to their doctor.

When to refer

Babies and young children
Failure of an established sore to resolve
Severe or worsening sore (widespread)
History of frequent cold sores
Sore lasting longer than 2 weeks
Painless sore (like in oral cancer)
Patients with atopic eczema
Eye affected
Uncertain diagnosis
Immunocompromised patient

Management

The duration of the symptoms is important as treatment with aciclovir (acyclovir) is of most value if started early in the course of the infection (during the prodromal phase). Usually the infection is resolved within 1–2 weeks. Any lesions that have persisted longer need medical referral.

Aciclovir and penciclovir

Aciclovir cream and *penciclovir creams* are antivirals that reduce time to healing and reduce pain experienced from the lesion. Treatment should be started as soon as symptoms are felt and before the lesion appears (prodromal stage). Once the lesion has appeared, evidence of effectiveness is less convincing. The treatments are therefore a helpful recommendation for patients who suffer repeated attacks and know when a cold sore is going to appear. Such patients can be told that they should use treatment as soon as they feel the characteristic tingling or itching which precedes the appearance of a cold sore.

Aciclovir *cream* can be used by adults and children and should be applied ***4-hourly*** during waking hours (approximately five times a day) to the affected area ***for 5 days***. If healing is not complete, treatment can be continued for up to 5 more days, after which medical advice should be sought if the cold sore has not resolved. ***Penciclovir*** can be used by those aged 12 years and over and is applied 2-hourly during waking hours (approximately eight times a day) for 4 days. Some patients experience a transient stinging or burning sensation after applying the creams. The affected skin may become dry and flaky.

Bland creams (e.g. cetrimide/ celavex cream)

Keeping the cold sore moist will prevent drying and cracking, which might predispose to secondary bacterial infection. For the patient who suffers only an occasional cold sore, a simple cream, perhaps containing an antiseptic agent, can help to reduce discomfort.

Hydrocolloid patch

This patch is applied as soon as symptoms start and replaced as needed. The thin hydrocolloid patch is

used for its wound healing properties.

Practical point: preventing cross–infection:

1. Patient should be aware that HSV1 is contagious and transmitted by direct contact.
2. Patients should be encouraged to use a separate towel and wash their hands after applying products because viral particles are shed from the cold sore and can be transferred to others.
3. Risk of transmission is highest during the first 1–4 days of symptoms
4. Lesion should be kept clean by gently washing with it with mild soap solution.
5. For those patients in whom the sun triggers cold sores, a sun block would be the most effective prophylactic measure.

References:

1. Symptoms in the Pharmacy 9th Edition, 2022.
2. Community Pharmacy a guide to managment of minor ailements 1st Edition, 2018.