Skin Conditions II

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 (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.

Scabies

1. Scabies can be defined as a **pruritic skin condition** caused by the mite *Sarcoptes scabiei*. The infestation occurs at all age and it is a common public health problem in poor communities.
2. The mite is transmitted by **direct physical contact**. Mating occurs on the skin surface after which the female mite burrows into the stratum corneum to lay eggs. The faecal pellets she leaves in the burrow cause a local hypersensitivity reaction that trigger an allergic reaction invoking intense itching (This normally takes 15 to 20 days in a primary infestation but can take up to 6 weeks to develop. In subsequent infestations this hypersensitivity reaction develops much more quickly).
3. During the asymptomatic period the mite can be passed onto others unknowingly. The eggs hatch and mature in 14 days after which the cycle can begin again.

Patient Assessment

Age

Scabies infestation can occur at any age from infancy onwards.

Symptoms

Severe pruritus, especially at night, is the hallmark symptom of scabies (can lead to loss of sleep). The itch tends to be generalised rather than in specific areas.

Burrows can sometimes be seen as small thread-like grey lines. The lines are raised, wavy and about 5–10 mm long. Commonly infested sites include the web space of the fingers and toes, wrists, armpits, buttocks and genital area.

Patients may have a rash that does not always correspond to the areas of infestation. The rash may be patchy and diffuse or dense and erythematous. It is more commonly found around the midriff, underarms, buttocks, inside the thighs and around the ankles.

In adults, scabies rarely affects the scalp and face, but in children aged 2 years or under and in the elderly, involvement of the head is more common, especially the postauricular fold.

History

The itch of scabies can take several (6–8) weeks to develop in someone who has not been infested previously. The scabies mite is transmitted by close personal contact, so patients can be asked whether anyone else they know is affected by the same symptoms, (e.g. other family members). In addition history is required to exclude possible allergic contact dermatitis.

Signs of infection

Scratching can lead to excoriation, so secondary infections such as impetigo can occur. The presence of a weeping yellow discharge or yellow crusts would be indications for referral to the doctor for treatment.

Medication

- It is important for the pharmacist to establish whether any treatment has been tried already.
- The patient should be asked about how any treatment has been used, since incorrect use can result in treatment failure.

Notes:

- The itch of scabies may continue for several days or even weeks after successful treatment, so the fact that itching has not subsided does not necessarily mean that treatment has been unsuccessful.

- Treatment failure may have occurred if itching has not ceased after 3 weeks or if new area of itching continues to appear 7-10 days after treatment. In this situation patient should be referred to the doctor (Treatment failure should not be diagnosed before six weeks have elapsed).

When to refer
Babies and children under 2 years
Infected skin
Treatment failure
Unclear diagnosis

Management
Two treatments are recommended, 7 days apart. The treatment must apply to the entire body including the neck, face, scalp and ears in adults. Particular attention should be paid to the webs of fingers, toes and soles of the feet, and under the ends of the fingernails and toenails.

1. Permethrin (5% cream)
Permethrin cream is an effective scabicide treatment. For a single application in an adult, 30–60 g of cream (one to two 30-g tubes) is needed. The cream is applied to the whole body and left on for 8–12 h before being washed off (best time immediately before bed time). If the hands are washed with soap and water within 8 h of application, cream should be reapplied to the hands. Medical supervision is required for its use in children under 2 years and in elderly patients (aged 70 years and over). *Permethrin* can itself cause itching and reddening of the skin.

2. Malathion
Malathion is effective for the treatment of scabies and pediculosis (head lice). For one application in an adult, 100 mL of lotion should be sufficient. The aqueous lotion should be used in scabies. The lotion is applied to the whole body. The lotion can be poured into a bowl and then applied on cool, dry skin using a clean, broad paintbrush or cotton wool. The lotion should be left on for 24 h, without bathing, after which it is washed off. If the hands are washed with soap and water during the 24 h, *malathion* should be reapplied to the hands. Skin irritation may sometimes occur. Medical supervision is needed for children under 6 months.

3. Benzyl benzoate (25% in an emulsion basis):
Benzyl benzoate has been used to treat scabies for many years. It has now been superseded by more effective products. It has lower efficacy, and causes skin irritation and a transient burning sensation in approximately 25% of patients. This is usually mild but can occasionally be severe in sensitive individuals. In the event of a severe skin reaction the preparation should be washed off using soap and warm water. It is also irritating to the eyes, which should be protected if it is applied to the scalp. In addition, benzyl benzoate has an unpleasant smell. It must apply over the whole body; repeat without bathing on the following day and wash off 24 hours later; a third application may be required in some cases.

4. Crotamiton (Eurax®):
Crotamiton has antipruritic and weak scabicidal activity. It is recommended for controlling residual itching after treatment with a more effective scabicide. It required application only two to three times a day.

Notes:
The treatment should be applied to cool, dry skin.
All the family members should be treated, preferably on the same day because they may be infested but symptomless.
The scabies mite can live only for around 1 day after leaving its host and transmission is almost always caused by close personal contact. It is possible that reinfestation could occur from bedclothes or clothing and this can be prevented by washing them at a minimum temperature of 50◦C after treatment.

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.