Diagnosis and Management of Common Dermatologic Diseases

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Diagnosis and Management of Common Dermatologic Diseases

It is estimated that 15% of the outpatients seen by family practitioners have skin or mucosal complaints. In spite of this, due to their busy schedules, the study time devoted by undergraduates to dermatovenerereology is less than 5% of the total time spent on studies. Hence, the need for articles like this that refresh their minds about diagnosis and management of common skin disorders.

Common Skin Infections

1. Bacterial Infections

A) Impetigo

- It is a superficial bacterial infection caused by Streptococci and Staphylococci.
- Young children of age 2-5 years are typically affected.

A superficial infection caused by Staphylococci and Streptococci in young children with honey coloured lesions having stuck-on appearance

Signs & Symptoms: Vesicle or bullae may occur which ruptures to form erosions. Erosions covered with yellowish brown crusts (honey colored) with stuck on appearance is common clinical presentation. Face especially perinasal and perioral areas are most commonly involved (Figure 1). Recurrent rhinitis and colonization of nose by staphylococci may be associated.

Treatment: Removal of crusts with plain water soaks followed by topical antibiotics like mupirocin or fusidic acid are useful. Rarely systemic antibiotics like amoxicillin, ampicillin, cephalaxin may be required.

B) Folliculitis & Furunculosis

- It is an inflammation of the hair follicles caused by Staphylococcus aureus.
- Superficial infection of hair follicle leads to folliculitis while furunculosis is a deeper infection affecting a hair follicle
- Excessive sweating, occlusive clothing, poor hygiene, sharing of personal articles

An inflammatory infection of the hair follicle which may be superficial (folliculitis) or deep seated (furunculosis).
and diabetes mellitus are predisposing factors.

**Signs & Symptoms:** Folliculitis presents as painful reddish lesions topped with pustule from the centre of which hair can be seen emerging. Folliculitis is common in hair bearing areas like beard (Figure 2). Furuncle is extremely tender, larger and deeper kind of nodular lesion. Both kinds of lesion may rupture discharging pus (Figure 3).

**Treatment:** Folliculitis: usually topical antibiotics are helpful and oral antibiotic are occasionally required. Recurrent furunculosis needs treatment with oral antibiotics and pain killers. Antibacterials like amoxicillin, ampicillin or cephalaxin are effective. In resistant case, antibacterial sensitivity testing may be needed to guide the choice of antibacterials.

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**C) Cellulitis**

- It is an infection of skin and subcutaneous tissue caused by Streptococci and Staphylococcus. Most common site is foot and leg.
- Trauma, diabetes, old age act as predisposing factors
- Constitutional symptoms like fever are usual with the skin lesions

**Signs & Symptoms:** Leg is the most common site involved. Diffuse tender and reddish swelling of the one extremity occurs accompanied with fever, myalgia and sometimes chills and rigor (Figure 4).

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<th>Infection of the skin and subcutaneous tissue caused by staphylococci and streptococci. Commonly seen in elderly especially diabetics.</th>
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Superficial ring shaped skin lesions with central clearing caused by fungi called dermatophytes, common in obese and diabetic individuals.

**Treatment:** Systemic antibiotics either oral or IV are required for 10-14 days. In severe cases surgical intervention may be required.
2. Fungal Infections

A) Tinea corporis & tinea cruris

- Also known as ringworm, it is caused due to superficial fungal infection by a group of fungi known collectively as dermatophytes.
- Obesity, diabetes, excessive sweating act as predisposing factors.

**Signs & Symptoms:** Ring shaped lesions with central normal skin and at the margin of the ring redness with scaling or papules or pustules. Lesions subside centrally and progress peripherally to produce annular lesion (Figure 5,6).

Tinea corporis is common on waistline, axilla, buttocks, and inframammary areas. Tinea cruris occurs in groins and on inner thighs.

**Treatment:** Topical antifungals like clotrimazole, miconazole or terbinafine for 2-4 weeks clear localized infections.

Oral antifungals like griseofulvin, terbinafine and itraconazole for 2-4 weeks are needed for extensive or recurrent infections.

B) Pityriasis Versicolor

- It is also known as tinea versicolor.
- Caused by overgrowth of yeast fungus, Malassezia furfur.

**Signs & Symptoms:** Asymptomatic hypopigmented or hyperpigmented or brownish flat well defined lesions covered fine scales on chest, upper central back, neck, axillae and face (Figure 7).

**Treatment:** Topical antifungals like 1% clotrimazole, 2%miconazole, or 2% ketoconazole applied for 1-2 months clear the infection. Pigmentation takes longer to come to back to normal. Oral

Hypo or hyperpigmented flat lesions with fine scales caused by overgrowth of yeast called Malassezia furfur.
fluconazole or itraconazole are also effective.

C) Candidial Intertrigo

- Opportunistic yeast infection caused by Candida albicans.
- Hot and humid environment in body folds, low immunity, overweight, diabetes are predisposing conditions

**Signs & Symptoms:** Groin and axillae are commonly involved. Moist red patches with or without fissuring and satellite pustules occur in the body folds. Web spaces of toe or fingers can also be affected due to prolonged and repeated wet work. In web spaces moist, sodden white colored plaques appear (Figure 8).

**Treatment:** Topical antifungals in lotion form are useful. Keep the areas dry as far as possible to avoid recurrence. Oral antifungals may be used in the immunosuppressed or when underlying factors like diabetes or Cushing's syndrome can't be corrected easily.

![Image of Candidial Intertrigo](image)

3. Viral Infections

A) Varicella (Chicken pox)

- Primary infection with Varicella zoster virus
- Incubation period 10-14 days

**Signs & Symptoms:** Polymorphic rash predominantly on trunk, proximal part of extremities and face which later become pustular usually accompanied by constitutional symptoms like malaise and fever.

![Image of Varicella](image)

**Treatment:** Acyclovir 800mg 5 times a day for 7 days. Valacyclovir or famciclovir allow for less frequent administration. Antipyretics like paracetamol for fever may be needed. Oral and
topical antibiotics are used if secondary bacterial infection supervenes.

B) Herpes zoster

- Caused by reactivation of Varicella zoster virus
- Elderly persons and immuno-compromised persons are commonly affected though young adults may also be affected

Signs & Symptoms: Lesions are preceded by pain and increased sensitivity of skin on touch (hyperaesthesia). Tense vesicles on reddish background arise with characteristic unilateral and linear pattern (Figure 10).

Treatment: Tab. Acyclovir 800mg 5 times a day for 7 days. Alternatively, valacyclovir 1 gm thrice daily may be given. Topically antibacterials and soothing agents like calamine lotion may be applied.

C) Herpes simplex

- Caused by Herpes simplex virus I and II
- Herpes labialis and herpes genitalis are common clinical presentations which occur on lips and genitals respectively. These infections commonly recur at frequent intervals and for long periods. Labial herpes may be embarrassing while genital herpes is frequently painful and distressing.

Signs & Symptoms: Grouped fluid filled small vesicles around muco-cutaneous junction of lips and genital area, which rupture easily to give grouped erosions. Vesicles with surrounding redness on muco-cutaneous junction of lips, genital area, sometimes in oral cavity occur. These vesicles rupture easily leaving grouped erosions or superficial ulcers (Figure 11).

Treatment: Oral acyclovir 200mg 5 times a day for 7-10 days or 400mg three times a day for 7-10 days. Alternatively, one may use valacyclovir 500 mg twice daily.
4. Parasitic infestations

A) SCABIES

- It is an ectoparasitic infestation by the scabies mite Sarcoptes scabei.
- Transmission from one person to others is common and more than one member in a family may be affected.

**Signs & Symptoms:** Pruritus which is worse at night is characteristic. Other family members suffering from same symptoms can be a clue for scabies. Tiny itchy papules, pustules, papulovesicles in the finger web spaces is diagnostic (Figure 12). Other sites like wrist, axillae, genitals and thighs are also involved.

**Treatment:** Application of scabicidal agent overnight from neck to toe after a scrub bath.
- Permethrin cream (5%): Single overnight application from neck to toe followed by a scrub bath in morning. An adult will require 30g of permethrin for single application.
- Gamma benzene hexachloride lotion (1%): Single application is also useful. It should be avoided in infants and pregnant females.
- Benzyl benzoate lotion (25%): 3 applications are required. It should be avoided in children due to its irritant potential.
- To relieve the itch oral antihistaminics may be used.
- Other family members should also be treated simultaneously to prevent the recurrences.

B) Pediculosis

- It is a scalp infestation caused by lice Pediculus capitis (Figure 13)
- Children and women are commonly affected.
- Transmission of lice occurs by close contact.

**Signs & symptoms:** Itching in the scalp which may be accompanied with boils and/or discharge in the scalp. Often there are enlarged
lymph nodes in cervical region. Lice and nits can be detected in the scalp.

**Scalp infection, common in children and women, with itching wherein lice and nits commonly detected.**

**Treatment:** Gamma benzene hexachloride (1%) or Permethrin (2%) lotion application in the scalp followed by wash. Application can be repeated after 10-14 days to take care of nits.

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**5. Acne vulgaris**

- It is a chronic inflammation in and around the pilosebaceous units due to overgrowth of Propionibacterium acnes resulting from blocked follicular openings and excessive sebaceous secretions.

- Adolescent and young adults are typically affected.

**Signs & Symptoms:** Lesions are commonly distributed on forehead, cheeks, and chin. In some cases they can be seen on upper back, chest, shoulders and upper arms.

Depending upon the clinical features, acne can be graded as:

1) Non inflammatory comedonal acne seen as whiteheads or blackheads only (Figure 14).

2) Papulopustular acne seen as conical erythematous papules with or without pustules (Figure 15).

3) Papulonodular acne seen as erythematous nodules and papules

4) Nodulocystic acne seen as deep seated skin coloured or erythematous nodules, cystic swellings and sinuses (Figure 15).

Features of milder grades of acne commonly coexist with severer grades of acne.

**Treatment:** Depending upon the grade of acne treatment can be planned as below

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**Figure 14.** Non inflammatory comedonal acne: Multiple comedones with central blackish plugs on the forehead.

**Figure 15.** Papulopustular acne: Pus filled lesion on the cheek. Few scar marks due to acne are also seen.
Non inflammatory comedonal acne: Topical tretinoin cream (0.025%, 0.05%) or adapalene gel or benzoyl peroxide gel/cream (2.5%) are effective. These preparations can cause irritation on face and hence should be used with caution. In case of irritation their frequency or quantity should be moderated.

Papulopustular acne: Topical clindamycin gel in combination with topical tretinoin cream (0.025%, 0.05%) or adapalene gel or benzoyl peroxide gel/cream (2.5% - 5%) are commonly used. Oral antibacterial course may be needed.

Papulonodular acne: In addition to the above topical preparations oral antibiotics like doxycycline or tetracyclines or azithromycin or erythromycin or minocycline are required. Addition of systemic non-antibacterial therapy is warranted in unresponsive patients. This consists of either oral isotretinoin or cyclical hormonal / antiandrogen therapy for duration of about 3 months.

Nodulocystic acne: Treatment is same as that of papulonodular acne but needs to be given for longer periods. Isotretinoin, dapsone or a combination of ethynil estradiol and cyproterone acetate are commonly needed for the treatment of this variant.

6. Eczema

Eczemas are itchy skin conditions that have three different morphological forms

1. Acute eczema is characterized by redness, edema, vesiculation, oozing and crust formation (Figure 17).

2. Subacute eczema has redness, hyperpigmentation, scaling and crusting.

3. Chronic eczema shows thickened, hyperpigmented skin with prominent skin markings (Figure 18).

Eczema can also be caused due to contact of skin with some external agents (exogenous) i.e. allergic contact dermatitis or irritant contact dermatitis. Avoidance of contact with such agents will prevent recurrence of eczema. Some patients with eczema display unusual proneness to react to ordinary environmental allergens (atopy). This is
also termed as endogenous eczema. In a given patient endogenous and exogenous factors frequently combine and cause eczema.

Treatment: Oral antihistamincs are needed to relieve itching. Careful history is a must for identification and avoidance of contact with external agents which may have precipitated or exacerbated the eczema. Moisturizing lotions and soothing creams are generally useful.

Depending upon the signs & symptoms of the lesions at the time of presentation following treatment can be offered.

Acute phase: Plain water soaked cotton cloth or gauze pieces kept on lesion. When acute phase subsides topical steroid lotions can be applied

Subacute phase: Moderately potent steroids (like mometasone, fluticasone ) in cream base

Chronic phase: Potent topical steroid ointments like Fluocinolone, betamethasone or highly potent like clobetasol, betamethasone can be used

Treatment with potent to highly potent steroids on face and in children should be avoided and if at all given should be used for few days only. Extensive lesions may necessitate the use of oral steroids or in severer cases, immunosuppressants.

7. Psoriasis

Psoriasis is an autoimmune papulosquamous condition which may affect nails and joints in addition to skin. Young to middle age adults are usually affected but it can be seen in any age groups.

Signs & Symptoms:

Sharply demarcated reddish, round shaped papules and plaques covered with silvery white scales are characteristic lesions. Extensor surface of extremities like elbows and knees are classically affected.

An autoimmune disorder with sharply demarcated reddish, round shaped papules and plaques covered with silvery white scales, which leave behind small bleeding points on removal.
Lesions can also be present on the trunk and other body parts. Scaling in the scalp with redness, subungual scaling and debris and joint pains can also occur. Removal of scales leaves behind small areas of pinpoint bleeding known as AUSPITZ sign. Palms and soles are involved in some patients.

**Treatment:**

Avoidance of irritants and use of emollient creams form the mainstay of therapy. Topical potent steroids like clobetasol or betamethasone two times a day are useful when there are few lesions. Non-steroidal alternatives include calcipotriol cream or ointment. For extensive involvement systemic therapies like methotrexate, acitretin, PUVA therapy or cyclosporine are indicated. Monitoring care should include prevention of cumulative toxicity of these medicines. In affording patients, biologic injections like etanercept or infliximab provide a useful alternative.
Dear Doctor,

It gives me immense pleasure to present to you this issue of Diagnosis and Management of Common Dermatological Disorders by Dr. Uday Khopkar and his colleagues Dr. Atul Dongre and Dr. Nitya Malladi. Dr. Khopkar has been known to me since my college days. He is very knowledgeable and has authored a number of books, both for students as well as practising Dermatologists. He has indeed taken Dermatology in India to newer heights. Despite his vast knowledge he is very humble and approachable.

This simple booklet on Dermatology has been written by him and his colleagues as an aid to the practising doctor in common conditions in day-to-day practise. We are sure you would find it useful.

This booklet is presented to you by Raptakos, Brett & Co. Ltd.

We would very much like to have your valuable suggestions and comments to make our future issues more meaningful to you.

We will appreciate if you could spend a few minutes to fill in your comments and mail the same to us. You can also view the QMR on our website: www.raptakos.com and e-mail your feedback to following E-mail id: medical1@raptakos.com

Thanking you

Dr. Aziz Keshvani
Chief Scientific Officer

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