

Common Cutaneous Infections & Infestation

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Lecture Outline

- **Bacterial:**

Impetigo, Erysipelas, Cellulitis, Furuncle, Carbuncle, Folliculitis & Erythrasma

- **Viral:**

Warts, Molluscum contagiosum, H.simplex & H.zoster

- **Fungal:**

Candida, Dermatophyte & Pityriasis versicolor

- **Protozoal:**

Leishmaniasis

- **Infestations:**

Scabies & Pediculosis capitis



Impetigo

- Acute Superficial non-follicular infection.
- Organism : staphylococcus & streptococcus group A
- Types : Bullous , Non Bullous .
- Age : Children > Adult .
- Site :Face and Acral areas
- Hallmark : **(honey-colored or Golden yellow crust)**
- No scaring heals with post inflammatory pigmentation (Hypo/Hyper)
- **Predisposing factors:-**

Warm, humid climate, poor hygiene, trauma,
insect bites & immunosuppression.

Recurrent
e
staph carrier
(nasal or
perianal)

Complications:

Acute post streptococcal

Glomerulonephritis

APSGN:

- ④ Follows strept. infection (impetigo)> URTI
- ④ Latent period : 10 days if associated with pharyngitis, 3 weeks if associated with pyoderma
- ④ Nephritogenic pyoderma
- ④ Rare

Management :

- ④ **Swab :Gram stain (gram positive cocci)**
- ④ **Culture**
- ④ **Remove crust**
- ④ **Localized: Topical antibiotics**
- ④ **Severe , bullous or Strept (prevent APSGN) :**

**1st generation cephalosporin
OR Penicillin 7-10 d**

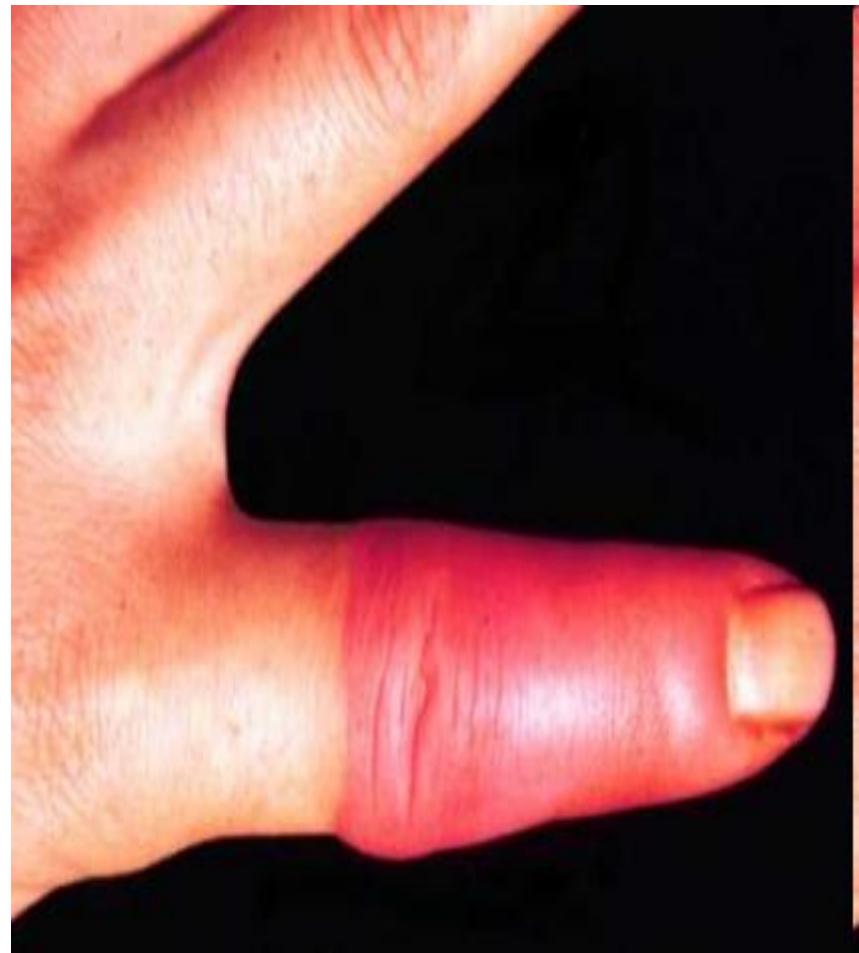
A Vs B



A Vs B



A Or B ?



Cellulitis

- Deeper involvement up to subcutaneous fat)
- Unilateral Diffuse, hot, tender, erythematous plaque (**leg**)
- Strep. Progenies, staph. aureus
- Cut , abrasion or ulcer
- Palpable, tender Lymph node .
- (fever ,↑WBC)
- **Risk factors:** DM, HTN, obesity, Immunodeficiency , venous stasis.
- Recurrence :lymphedema .

Erysipelas

- Superficial infection +marked lymphatic's involvement (dermal)
- Unilateral sharply demarcated tender warm edematous red plaque
- Beta hemolytic strept. gp A .
- After penetrating trauma
- Fever ,↑WBC
- Face and Legs .
- Infants, young children, & elderly patients (**most commonly**)

Cellulitis management :

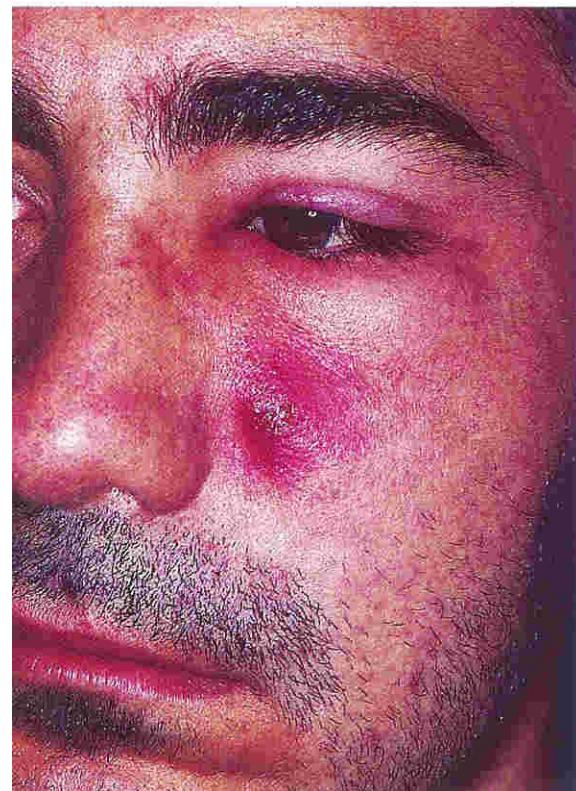
- Swab (gram stain & culture)
- blood culture .
- IV penicillinase-resistant penicillins .
- 1st generation cephalosporin .

Erysipelas Management :

- Smear for gram stain & culture (fluid, blood).
- Cold compressor .
- Oral antibiotics . (I.V. route for severe infection).
- Oral penicillin OR Erythromycin for 10 days

Furuncle (Boil)

- Infection of deep portions of single hair follicle .
- Deep seated nodule .
- Staph. Aureus .
- Swab :Gram stain & culture .
- Antibacterial soap.
- Antistaph antibiotic.



Carbuncle

- Infection of multiple hair follicles .
- Larger more deep seated.
- Drain through multiple points in the skin (draining sinus) .
- S. Aureus .
- Swab : GS & Culture Screen for carrier state .
- Antistaph antibiotics.



Folliculitis

Infection of superficial hair follicle .

- *S. aureus* .
- face, scalp, thighs, axillary, & inguinal area.
- multiple small papules / pustule on an erythematous base
- Heals without scarring
- Swab: culture, gram stain (carrier state)
- Antibacterial soap
- Topical and systemic Antibiotic



Erythrasma

- Corynebacterium minutissimum
- Red, brown patch .
- Asymptomatic .
- flexural .
- RISK FACTORS .
Excessive sweating ,Obesity ,DM, immunocompromised states.
- Swab.
- wood's lamp: coral-red fluorescence .
- Topical erythromycin.
- Oral erythromycin X 7 d .



Erythrasma



Figure 1. Well demarcated red-brown plaque of erythrasma on the left medial thigh.

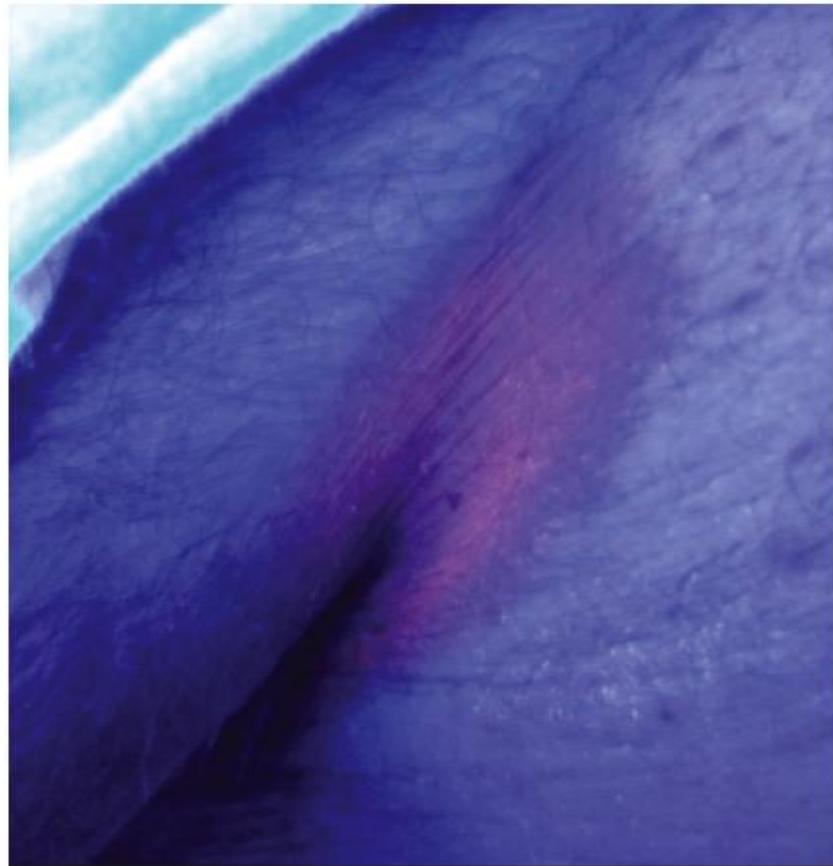


Figure 2. Coral-red fluorescence of erythrasma plaque during Wood's light examination.

Viral infection

Wart

- Human papilloma virus (HPV) .
- Direct contact .
- Asymptomatic .
- Oncogenic potential (HPV 16 , 18).
- Chronic ,difficult to treat .
- High recurrence rate .

Common Wart

- **verruca vulgaris**
- Hand
- Children
- Koebner phenomenon



Plane warts (*verruca plana*)

- Face & hands



Plantar wart (*verruca vulgaris*)

- Sole
- Painful



Genital wart

- Most common STD .
- Condylomata accuminata
- Cauliflower like .
- Penile, vulvular skin, mucous membrane, perianal area .
- Examine & treat sexual partner .
- Screen for other STD.
- Child--- ?sexual abuse
- Oncogenic:16, 18 (*Cervical cancer*)



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Table 79.1 Clinical manifestations and associated HPV types.

CLINICAL MANIFESTATIONS AND ASSOCIATED HPV TYPES		
	Frequently detected	Less frequently detected
Skin lesions		
• Common, palmar, plantar, myrmecial and mosaic warts • Flat warts • Butcher's warts • Digital squamous cell carcinoma and Bowen's disease • Epidermodysplasia verruciformis (EV) • EV – squamous cell carcinoma	1, 2, 4 3, 10 7, 2 16 3, 5, 8 5	26, 27, 29, 41, 57, 60, 63, 65 28, 29 1, 3, 4, 10, 28 34, 35 9, 12, 14, 15, 17, 19–25, 36–38, 46, 47, 49, 50, etc. 8, 14, 17, 20, 47
Mucosal lesions		
• Condylomata acuminata • High-grade intraepithelial neoplasias (including cervical condylomata plana, bowenoid papulosis, erythroplasia of Queyrat) • Buschke–Löwenstein tumor • Recurrent respiratory papillomatosis, conjunctival papillomas • Heck's disease (focal epithelial hyperplasia)	6, 11 16 6, 11 13, 32	42–44, 54, 55, 70 18, 31, 33–35, 39, 40, 51–59, 61, 62

Management

Table 79.2 Management of anogenital warts with grading of recommendations. Grading of recommendation: (1), based on randomized, controlled trials of good quality and consistency; (2), well-conducted clinical studies but no randomized clinical trials⁶⁷.

MANAGEMENT OF ANOGENITAL WARTS WITH GRADING OF RECOMMENDATIONS	
Cytotoxic agent	<ul style="list-style-type: none">• Podophyllotoxin 0.5% solution, 0.15% cream (1)
Physical destruction	<ul style="list-style-type: none">• Cryotherapy (liquid nitrogen, cryoprobe) (1)• Trichloroacetic acid (TCA) 80–90% solution (1)• Electrosurgery (1)• Scissors excision (1)• Laser vaporization (2)
Immunomodulatory	<ul style="list-style-type: none">• Imiquimod 5% cream (1)

Molluscum Contagiosum

- Pox virus
- CONTAGIOUS
- Children
- Face, neck
- Umbilicated dome pearly papules .
- Histopathology :
Henderson-patterson bodies
- Management:
- counseling .
- Involutes spontaneously .
- Curettage .
- Cryotherapy .





HERPES SIMPLEX

- HSV-1(H. labials)
- HSV-2(genital herpes)
- Herpetic whitlow
- Eczema herpeticum .
- Direct contact .
- Latency.
- High recurrence rate

- Grouped vesicle on erythematous base





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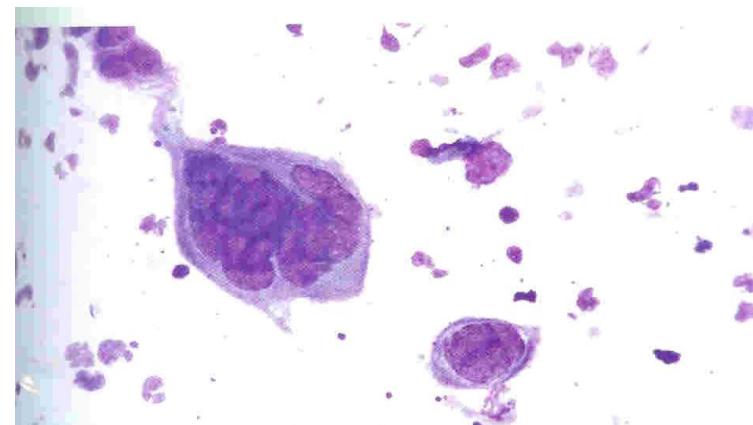


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Management

- Tzanck Smear---viral particles .
- Serology (1gG, 1gM) antibodies .
- Direct fluorescent antibody(DFA)
- Viral culture- most definitive
- Oral / I V acyclovir
- Genital, Recurrent, immune suppressed, neonatal, Eczema herpeticum ???



VARICELLA ZOSTER VIRUS (VZV)

- CHICKENPOX (Children)
- HERPES ZOSTER (Adult)
(VZV latency) .
- Prodromal pain → dermatome unilateral (group vesicles on erythematous base) → post-herpetic neuralgia.
- Sites: Thoracic & Trigeminal (most common) .
- Serious involvement :
 1. *Ophthalmic division of trigeminal nerve.*
 2. *Geniculate ganglia (Ramsey-hunt syndrome)*
 3. *Sacral ganglia.*





Management

- Tzanck Smear .
- Direct fluorescent antibody(DFA)
- Analgesia .
- Acyclovir .

Fungal infection

Candidiasis

Candida albican (normal commensal of GIT)

- **Napkin Rash & Intertrigo (satellite lesions)**
- **Paronychia**
- **M.M (oral, urogenital & esophageal).**
- **Oral Thrush & angular cheilitis .**
- **Vulvovaginitis →→ irritation, discharge .**
- ***Candida* folliculitis .**
- **Generalized Systemic infection.**
- **Chronic mucocutaneous candidiasis .**





Gastrointestinal (GI) candidiasis

Predisposing factors

- *physiological (Extreme of age & pregnancy)*
- *pathological (DM, HIV & organ transplant)*
- *Itrogenic (long course of Antibiotics or steroid)*

Management

- Swab (KOH , fungal culture)
- Alter moist warm environment
- Nystatin-containing cream (Imidazole)
- Oral antifungal (itraconazole): immune suppressed, persistent infection

Dermatophyte

- Skin .
- Hair .
- Nail .

Tinea Pedis

- ***Most common***
- **Adult (athlete's)**
- **Site:** Toe webs , instep .
- T. rubrum &
T. mentagrophytes
- **Types :**
 1. Moccasin (Hyperkeratotic).
 2. Interdigitalis.
 3. Inflammatory (vesicular) .
 4. Ulcerative .



Table 77.9 The four major types of 'tinea pedis' (including dematiaceous and dermatomycoses).

*Because of the thickness of stratum corneum on plantar surfaces and the inability of *T. rubrum* to elicit an immune response sufficient to eliminate the fungus¹⁶. [‡]Often *Pseudomonas*, *Proteus* or *Staphylococcus aureus*. [†]Allergic reaction to fungal elements presenting as a dyshidrotic-like eruption on the fingers and palms (culture-negative for fungus). CMI, cell-mediated immunity.

THE FOUR MAJOR TYPES OF 'TINEA PEDIS' (INCLUDING DEMATIACEOUS AND DERMATOMYCOSSES)			
Type	Causative organism	Clinical features	Treatment considerations
Moccasin	<i>T. rubrum</i> <i>E. floccosum</i>	Diffuse hyperkeratosis, erythema, scaling, and fissures on one or both plantar surfaces; frequently chronic and difficult to cure*; may be associated with fungal CMI deficiency	Topical antifungal plus product with urea or lactic acid; may also require oral antifungal therapy
	<i>S. hyalinum</i> <i>S. dimidiatum</i>		
Interdigital	<i>T. mentagrophytes</i> (var. <i>interdigitale</i>) <i>T. rubrum</i> <i>E. floccosum</i>	Most common type; erythema, scaling, fissures, and maceration occur in the web spaces; the two lateral web spaces are most commonly affected; associated with the 'dermatophytosis complex' (fungal infection followed by bacterial invasion [‡]); pruritus common; may extend to dorsum and sole of foot	Topical antifungal; may require topical or oral antibiotic if superimposed bacterial infection
	<i>S. hyalinum</i> <i>S. dimidiatum</i> <i>Candida</i> spp.		
Inflammatory (vesicular)	<i>T. mentagrophytes</i> (var. <i>mentagrophytes</i>)	Vesicles and bullae on the medial foot; associated with the dermatophytid reaction [†]	Topical antifungal usually sufficient
Ulcerative	<i>T. rubrum</i> <i>T. mentagrophytes</i> <i>E. floccosum</i>	Typically an exacerbation of interdigital tinea pedis; ulcers and erosions in the web spaces; commonly secondarily infected with bacteria; seen in immunocompromised and diabetic patients	Topical antifungal; may require topical or oral antibiotics if secondary bacterial infection

Dermatophytes

Non-dermatophytes

T. Ungum (Onychomycosis)

- **T. rubrum**
- **T. mentagrophytes**
- **nail clipping (culture)**
- **Systemic antifungal**



Tinea corporis



- **Body .**
- **Trunk .**
- **T. rubrum .**
- **Annular plaque with Active borders .**

Tinea cruris



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Tinea Manum



Tinea Capitis

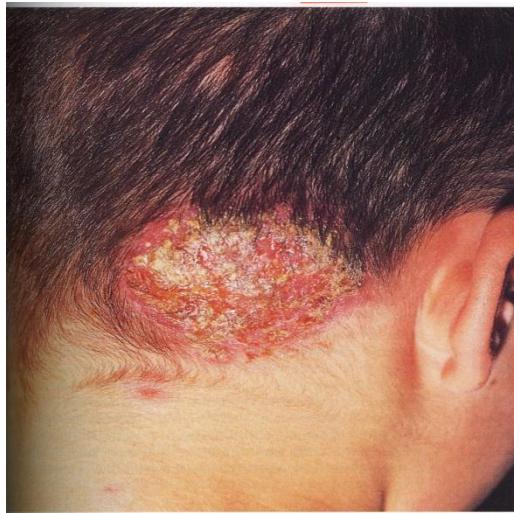
Well circumscribed scaly pruritic hairless plaque

- Black dot (*T. tonsurans*)
- Gray patch (*M. audouinii*)
- Kerion (*T. verrucosum*)
- Favus (*T. schoenleinii*)

Management :

- 1-Education .
- 2-Scraping,hair plug(KOH & culture)
- 3-Wood's light .
- 4-Oral antifungal (Griseofulvin, terbinafine, itraconazole) .
- 5- Topical antifungal Nizoral shampoo .

Hair & nail involvement
require systemic Rx



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Pityriasis versicolor (Tinea versicolor)

- Trunk
- Asymptomatic
- Organism

1- *Malassezia furfur* .

2- *Pityrosporum orbiculare* .

- Recurrent

- Wood's lamp(Green blue fluorescence)
- Scraping (KOH, Culture)
- Topical imidazole (Nizoral) .
- Systemic Antifungal .

Yellowish- brown(in white skin)
Hypopigmented. (in dark skin)



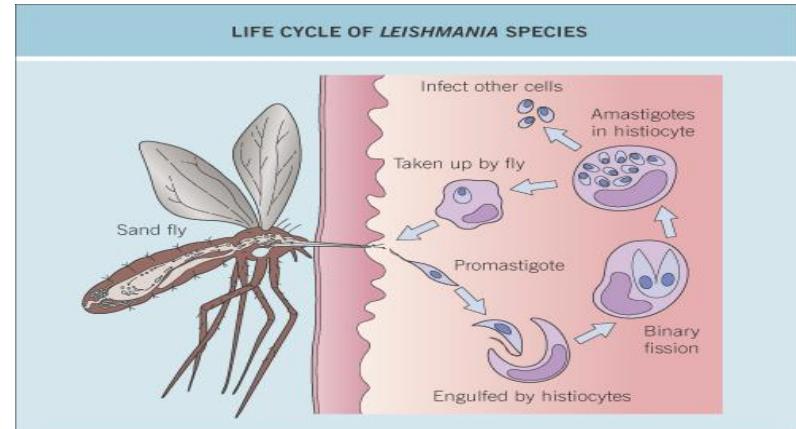
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Protozoa Infection

Leishmaniasis

- Vector : sand fly .
- Painful papule/ nodule—ulcer-scar .
- Exposed site .
- Types (cutaneous, mucocutaneous & visceral)



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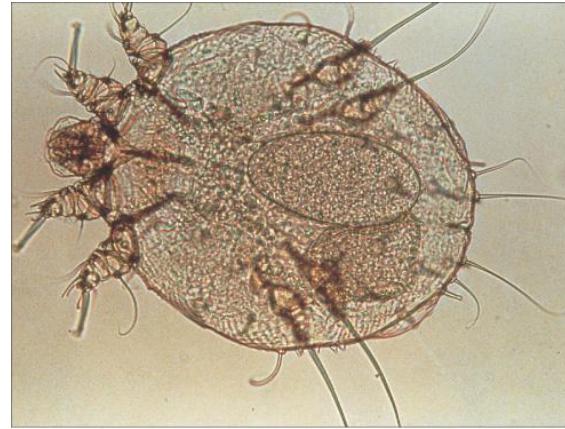
Management

- Leishmanin test
- ***Biopsy :Gimsa stain***
Lieshman-Donovan bodies
- **Treatment :**
 - 1- Pentavalent antimony local injection .
 - 2- Systemic pentavalent antimony .
 - 3- Cryotherapy.
 - 4- Others .

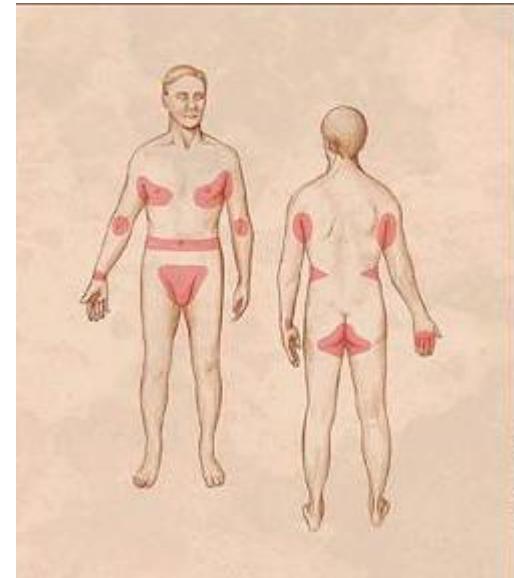
Infestation

Scabies

- Mite: *Sarcoptes scabei*
- Sever and persistent itch .
- Sites: finger webs, flexor of the wrist, Axillae, areola, umbilicus, lower abdomen and scrotum
- Linear burrow
- 2nry infection(pustule crust) .



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Linear burrows



Keys To Diagnosis

1-Worse at night .

2- similar complaint of other family member .

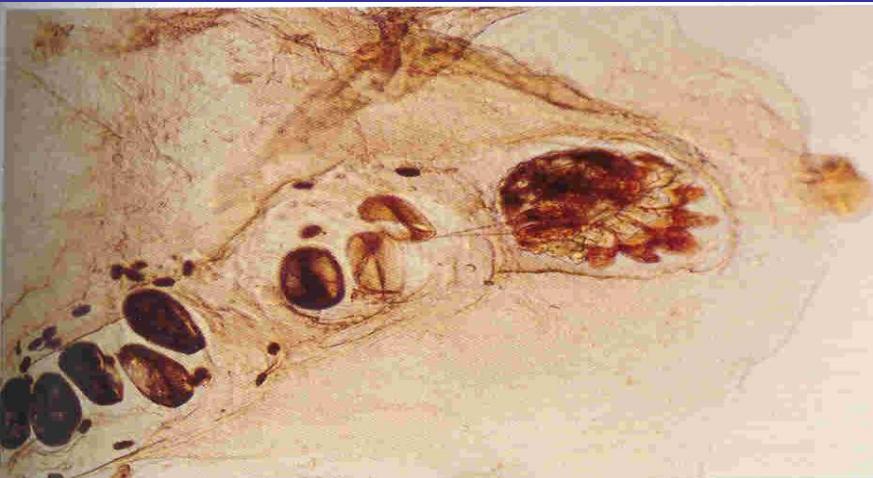
3- Recent Travel .

4-?

- Investigation :

1- India ink or gentian violet then removed by alcohol to identify the burrows

2-A drop of mineral oil on the lesion then scraped away with a surgical blade & Demonstration of the mite under the microscope



- Managements :

1- Treatment of family members and contact even if asymptomatic!

2-Washing clothing and bed linen .

- Permethrin 5% cream .
- Lindane(gamma benzene hexachloride) .
- Crotamiton cream for 5 days.
- Sulpher preparation .

Pediculosis Capitis

- Common in school children
- **Head louse**
(pediculus humanus var capitidis)
- Nit adherent to hair shaft .
- Sever itching of the scalp .
- **Post cervical Lymphadenopathy .**
- 2nry bacterial infection .

Management :

- Identification of the nit or adult head louse
- Examination of other family members and treated simultaneously .
- Combing with a fine comb .
- Permethrin cream 1% and 5% for 10 min then rinsed off .
- Malathion 0,5% lotion
- Lindan(neurotoxicity)



A



B

Thank you

Any Questions ?