

Scabies & Pediculosis

Dr.Snehal Navande-Kodgire

M.D.(Skin & VD)

Asst.prof.

Dept.of Dermatology

MIMER Medical College, Talegaon.

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Scabies

A very common but highly contagious ectoparasitic infestation of skin by human itch mite (*Sarcoptes scabiei var hominis*)

Belongs to

Sub Order : Astigmata

Family : Sarcoptidae

Incidence and prevalence

- Predominantly though a disease of children it affects people of all races and social classes worldwide.
- Exact incidence not known and vary from time to time.

Risk factors

- High humidity, low temperature.
- Infested member in family or sexual partner.
- In crowded conditions like jail inmates, hostels, army barracks where close body and skin contact is common.

Morphology and Life cycle

- Whitish hemispherical mite.
- Female mite (0.4mm x 0.3mm) bigger than male (0.2 X 0.15mm).

Life cycle

- Only fertilized female can burrow into skin.
- Burrows through stratum corneum up to malpighian layer.
- Lay 2-3 eggs/day (All total about 10-25 eggs).
- Mite dies after about 30 days.
- Egg → Larvae → Nymph; Undergoes three moults → mature mite.

Ecology

- Favours certain specific areas of skin.
- Face not ideal place for colonisation in adults (high density of hair follicles).
- A healthy patient harbours in an average 10-12 mites, maximum up to 50.
- In Norwegian scabies it may increase up to 2 million.
- Lives till 1-2 months in a person, but outside the body it survives only for 48-72 hrs.
- Dies if exposed to temp. of 50° for 10 minutes.

Transmission

- Close person to person contact (even for 15-20 minutes).
- Occasionally via fomites (e.g bedding or clothing).
- In adults scabies is frequently sexually acquired.
- Can not be transferred by pets and animals.

Clinical Features

- Intense itching, predominantly at night.
- In day time it is tolerable but persistent.
- In a person who has never had scabies before, symptoms take 6 weeks to appear because sensitivity begins about that period.
- In a person who was infected earlier before, symptoms appear sooner (1-4 days).

Signs

- Pruritic, papular or papulo-vesicular lesions, excoriations and burrows.
- “Burrow” is the pathognomonic lesion of scabies, a serpentine, thread like, greyish or dark line ranging from few mm to cm or more.
- Predominantly involves finger webs, wrist, axillae, areola, umbilicus, lower abdomen, genitalia and buttocks forming an imaginary circle - “circle of Hebra”
- In adults usually spares face and scalp.
- In infants it involves entire skin.



Burrow

Clinical Types

- Scabies in children
- Nodular scabies
- Bullous scabies
- Scabies in clean
- Norwegian scabies (crusted scabies)
- Scabies Incognito
- Animal transmitted scabies



Infantile Scabies



Norwegian Scabies



Nodular Scabies

Complications

- Ulcerations and impetiginization due to scratching.
- Secondary infection of ulcers with bacteria, like *Staphylococcus aureus* or beta hemolytic streptococci .
- Sometimes post - streptococcal glomerulonephritis.



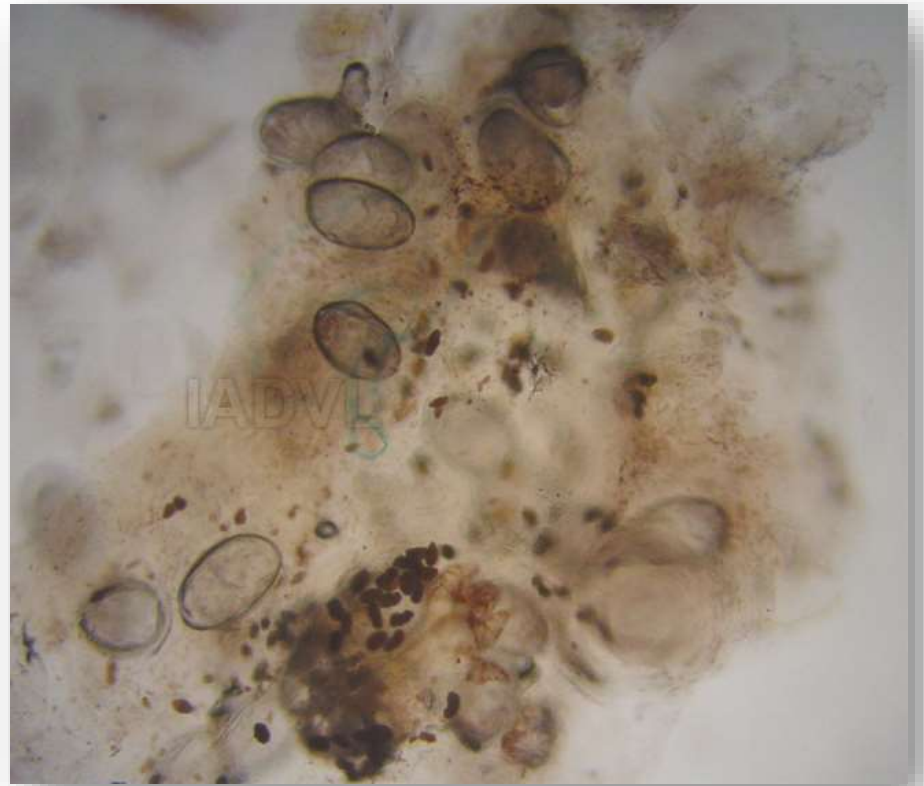
Secondary Infection in Scabies

Investigation

- Usually not necessary. Mainly diagnosed clinically
 - Demonstration of egg/ scybala / mite under microcope
 - Serological Tests
 - Less than 50% accuracy
- Quantification of specific IgE antibodies to a major scabies antigen recombinant rSar s14.3 is highly sensitive
- PCR, Immunosorbent Assays
- Dermatoscopy



Mite



Scybala

Differential Diagnosis

Classical Scabies

- Insect bite reaction
- Pompholyx
- Atopic Dermatitis
- Dermatitis Herpetiformis
- Neurotic Excoriations

Crusted Scabies

- Psoriasis
- Seb. Dermatitis
- Darier's Disease
- Eczema
- Erythroderma

Treatment

General Guidelines

- Treat patient along with everyone who lives with him.
- Recent sexual partner (if any).
- Topicals to be applied whole body below neck in adults. In infants and children face and scalp should be included.
- All clothes worn along with bed sheet, pillow cover and bed linen should be washed and sundried in the morning.
- Treatment not to exceed prescribed time limit.

Topical Therapy

Permethrin (5%)

Drug of choice at present

- Most widely used, safe (even in children as young as 1 month old) and pregnant women.
- Overnight application necessary.
- Repeat the application after 10 days.
- Cure rate of 89%-100%.
- Insignificant irritant potential and adverse effects (2%).

LINDANE (GBHC 1%)

- Effective and safe with proper application.
- Gives a cure rate of 89%.
- In infants and children application should be restricted to 2 hours.
- Repeat application after 1 week.
- Pregnancy Cat-B.

Benzoyl Benzoate 25%

- Irritating to raw areas and eye.
- Three consecutive application needed.
- Lower cure (10-12.5%)
- may be used in children.

Crotamiton 10% (Lotion / cream)

- Lower cure rate and low irritation potential
- Good antipruritic action
- To be applied 5 successive nights
- Not approved for use in children
- Pregnancy Cat-C

Ivermectin Solution

- In a dose of 0.8% weight / volume.
- Single ,overnight application.
- Repeat application advisable after 5 days.
- Not safe in children less than 5 years, old age and pregnancy.

Precipitated Sulfur 5-10%

- Relatively safer in infants and pregnant women.
- 3 consecutive applications.
- Unpleasant odour and cosmetic quality.

Systemic Therapy

Ivermectin

- Used since 1987 for onchocerciasis and in US for strongyloides.
- Derivative of macrocyclic lactones.
- Induces parasite paralysis by blocking neurotransmission.
- Safety not established in children below 15 years and pregnant women.
- Dose is 200 µg/kg/dose.
- Two doses 2 weeks apart.
- Neurotoxic.

Supportive Treatment

- **Anti-histaminics** for 2-3 weeks.
- Emollients and soothing agents like calamine.
- Topical/IL steroid for persistent nodular lesions.
- Rarely topical and systemic corticosteroids for allergic manifestations.

For Crusted Scabies

- Same treatment as ordinary scabies, but to be repeated many times.
- Thick hyperkeratotic ,crusted plaques should be removed by keratolytic agents like 5-10% salicylic acid, 40% urea or by soaking in warm water.
- Systemic therapy should be given along with topical.
- Refractory cases : Methotrexate.
- Animal scabies is self limiting, source animal should be adequately treated.

Systemic Antibiotics

- For secondary pyoderma.
- Non irritant, non toxic antibacterial agents like Ceftrimide / Chlorohexidine may help for topical use.

Prevention and Control

- Simultaneous treatment of all contacts, even if they are asymptomatic.
- Avoiding direct skin to skin contact with infected person.
- Bedding, clothing wash used at anytime during the 3 days before treatment should be washed and air dried.
- Rooms used should be thoroughly cleaned and vacuum cleaned after use.
- Environmental disinfection not necessary.

PEDICULOSIS

Introduction

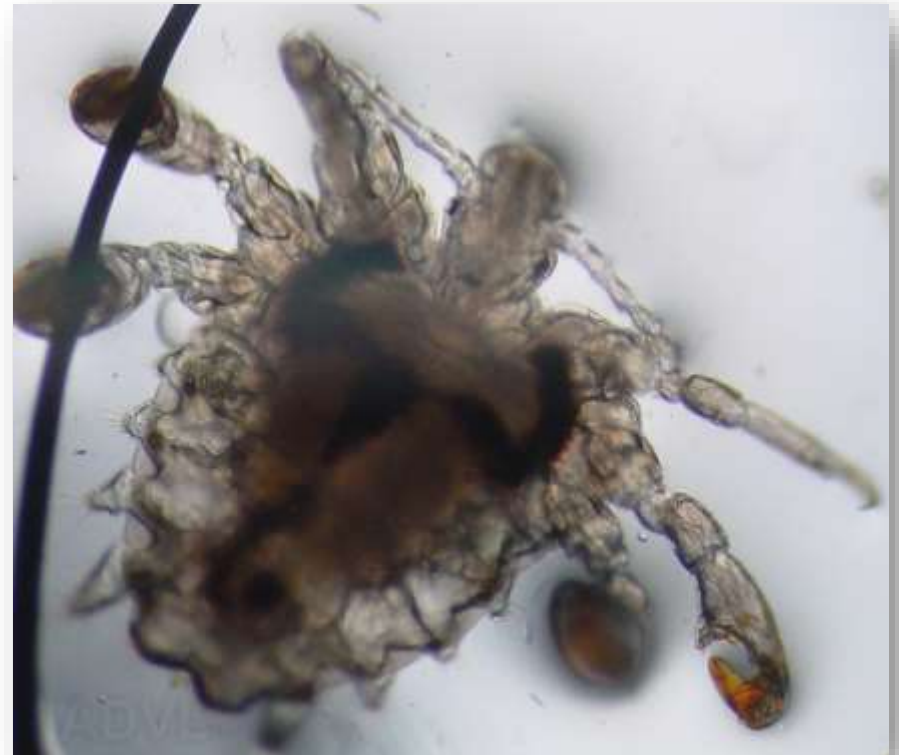
Infestation of humans with lice

- 3 species affect humans

Pediculus humanus capitis :
head louse.

Pediculus humanus corporis :
body louse.

Phthirus pubis : pubic or crab
louse.



Epidemiology

- **Head louse** : scalp hair. common in children (3 -11 yrs).
Head to head contact, sharing combs, brushes and hats.
- **Body louse** : clothes, mainly seams, poor hygiene and unsanitary conditions.
- **Pubic louse** : pubic & axillary hairs, also scalp, eyebrows and eyelashes. Any hairy area. Intimate contact, sexual intercourse and shared clothes.

Biology

Body & head louse : similar, long and slender.

Pubic louse: short & wide body, resembling crab.

- Three pairs of short, jointed legs.
- Require blood for survival, can not survive away from host.

Clinical Features

Pediculosis capitis

- Itching is common
- Erythema and intensely pruritic papules.
- Nits attached to hair shafts.
- Favoured site - behind the ears.
- Cervical lymphadenopathy common in children.

Pediculosis corporis

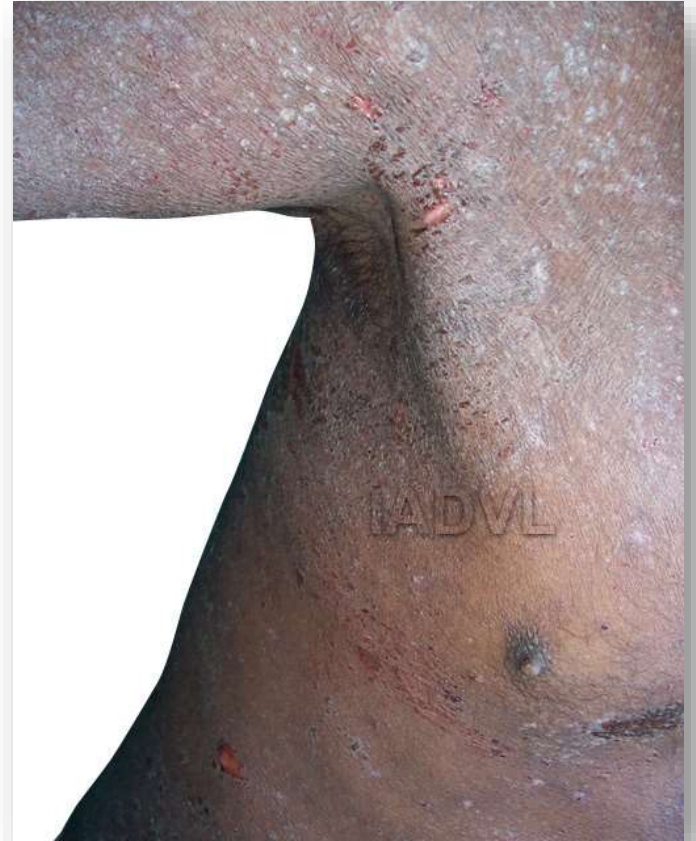
- Itchy papules and excoriations.
- Vagabond's disease.

Pediculosis pubis

- Lice and nits seen by patient or family members.
- Attached to the base of the hairs.
- “maculae caeruleae” slate coloured macules resulting from, intra cutaneous hemorrhages.



P. capitis



Vagabond's Disease

Topical treatment

Drug	Dose	Remark
Malathion 0.5%	12 hrs	Repeat after 7 days
Carbaryl	Lotion : 24 hrs Shampoo : 3-4 mins	Repeat after 7 days
GBH 1%	lotion : 12 hrs Shampoo : 4-10 min	2 applications. Repeat after 7 days.
Permethrin 1%	Lotion : 8-12 hrs Rinse : 10 mins	Repeat after 7 days.

Oral treatment : Ivermectin 200 mcg/kg, Cotrimoxazole

Additional Recommendations

- For pediculosis corporis only washing and rinsing all clothes in hot water followed by hot ironing the seams is required.
- Repeated application of petrolatum on eyelashes & eyebrows, then remove the lice with tweezers.
- Contacts should be checked and treated.
- Combs, hair brushes and clothes should not be shared.

MCQs

Q.1) This Scabies Presents with Involvement of Face, Palms and Sole

- A. Genital Scabies
- B. Scabies in Adult
- C. Infantile Scabies
- D. Norwegian scabies

Q.2) The complication of infected scabies is

- A. Hepatitis
- B. Post streptococcal glomerulonephritis
- C. Xerosis
- D. Morbilliform rash

MCQs

Q.3) Body lice serves as vector for all these disease except

- A. Endemic Typhus
- B. Relapsing fever
- C. Rocky mountain spotted fever
- D. Trench fever

Q.4) How many species of lice affect humans?

- A. 1
- B. 3
- C. 4
- D. 2

MCQs

Q.5) Nits or eggs are seen attached to

- A. Hair shaft
- B. Scalp
- C. Nails
- D. Cloth

Q.6) Treatment of pediculosis corporis

- A. Hot ironing of clothes
- B. Permethrin 1 %
- C. Malathion 0.5 %
- D. Carbaryl

Photo Quiz



Q. Identify the causative organism.

Photo Quiz



Q. Identify the lesion and diagnose the condition.

THANK YOU!