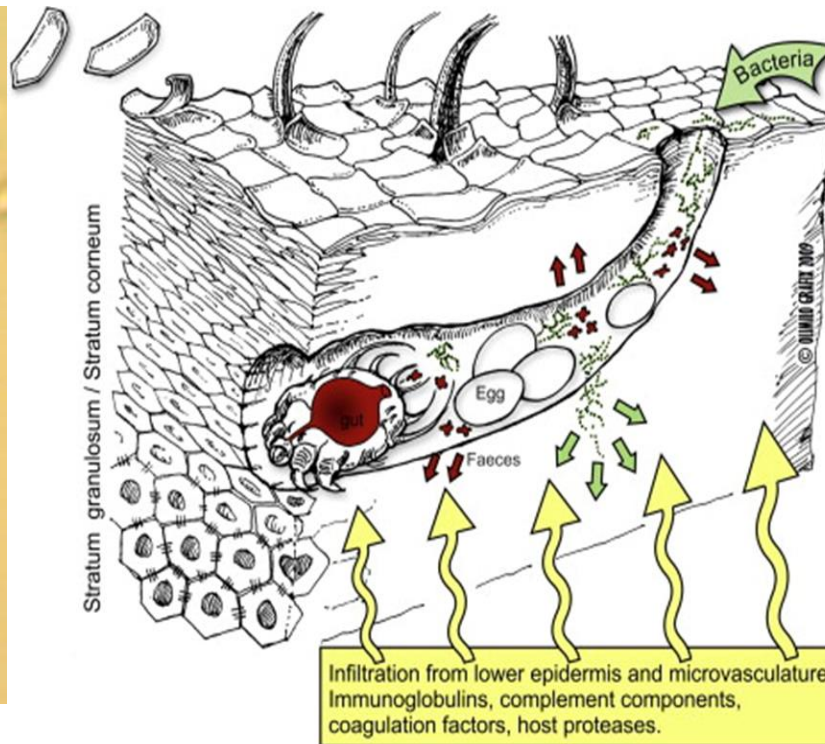
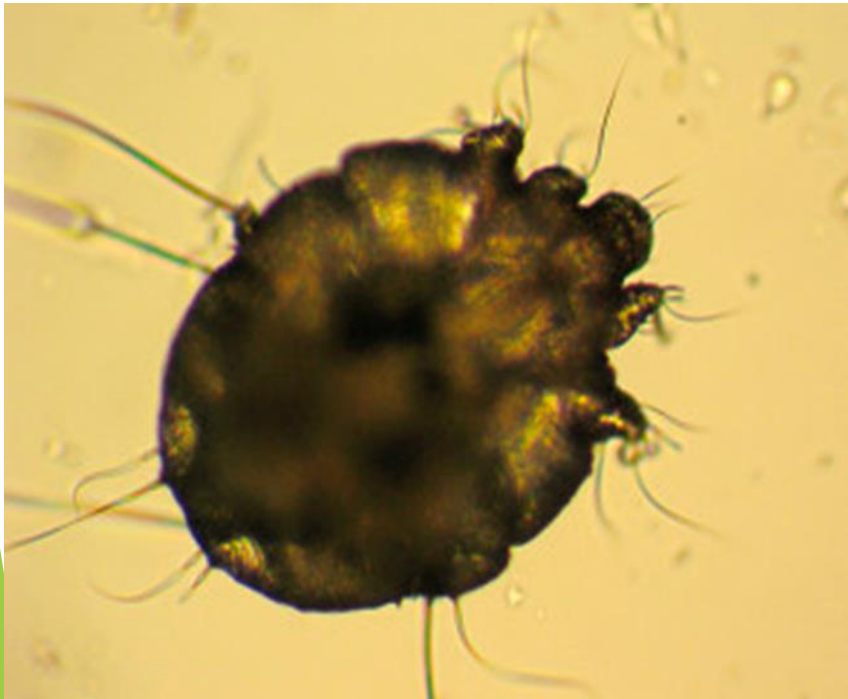


Skin infestations

Done by:1-seif abu assaf
2-taj ajarmeh
3-jana nawayseh
4-raghad alqaissi
5-omimah tarawneh

Scabies

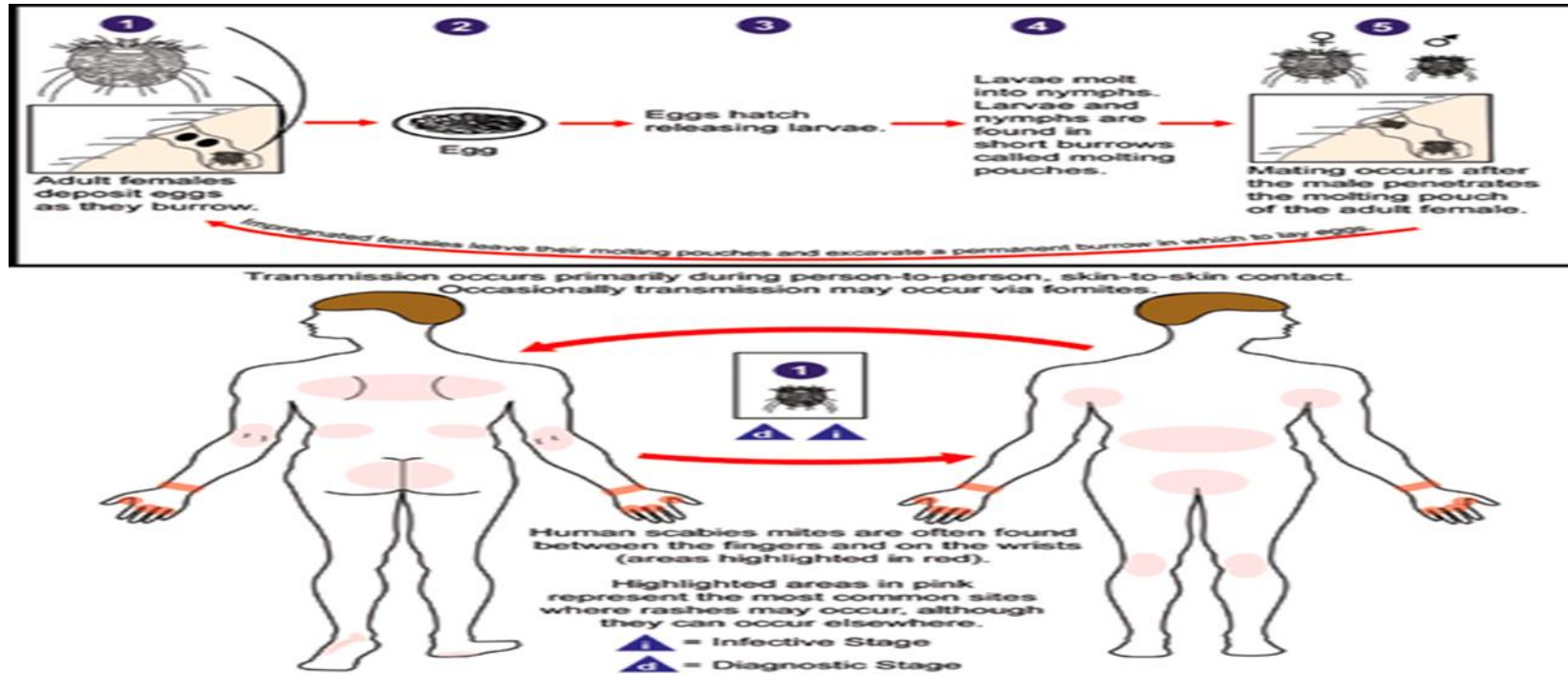
- ▶ Scabies is a very itchy rash caused by a parasitic mite that burrows in the skin surface. The human scabies mite's scientific name is *Sarcoptes scabiei* var. *hominis*



- ▶ Scabies affects families and communities worldwide. It is most common in children, young adults and the elderly. Factors leading to the spread of scabies include:
- ▶ Poverty and overcrowding
- ▶ Institutional care, such as rest homes, hospitals, prisons
- ▶ Refugee camps
- ▶ Individuals with immune deficiency or that are immune suppressed
- ▶ Low rates of identification and proper treatment of the disease.

- ▶ Scabies is nearly always acquired by skin-to-skin contact with someone else with scabies.
- ▶ The contact may be quite brief such as holding hands with an infested child.
- ▶ It is sometimes sexually transmitted.
- ▶ Occasionally scabies is acquired via bedding or furnishings.
- ▶ Typically, several scabies mites infest an affected host. After mating, the male mite dies. The female scabies mite burrows into the outside layers of the skin, where she lays up to 3 eggs each day for her lifetime of one to two months. The development from egg to adult scabies mite takes 10-14 days

- ▶ Scabies causes a very itchy rash. It's essential to search for burrows carefully in a patient with a severe itch, especially if the rash is mild. Contacts should be examined for burrows, whether or not they are itchy.

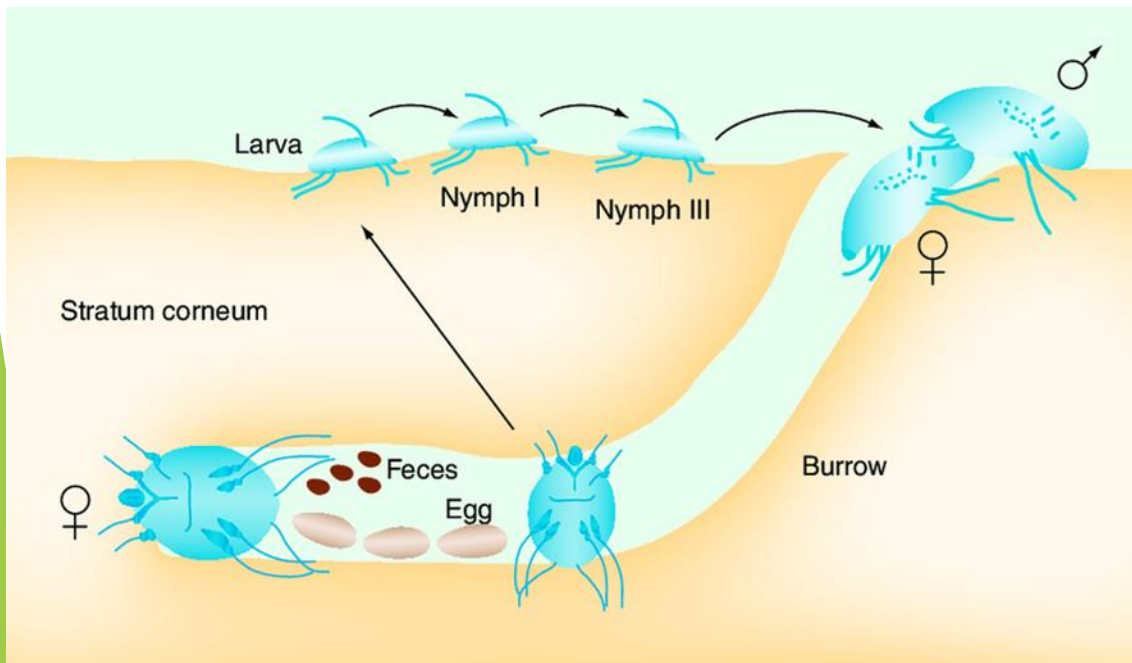


Itch of the scabies

- ▶ If it is the first episode of scabies, itch arises 4-6 weeks after transmission of a mite
- ▶ It may occur within a few hours of subsequent infestation.
- ▶ Itch is characteristically more severe at night, disturbing sleep
- ▶ It affects the trunk and limbs, sparing the scalp.
- ▶ Itch is mild or absent in some patients with crusted scabies.
- ▶ Itch can persist for several weeks after successful treatment to kill the mites.

Burrows

- ▶ Scabies burrows appear as 0.5-1.5 cm grey irregular tracks in the web spaces between the fingers, on the palms and wrists. They may also be found on or in elbows, nipples, armpits, buttocks, penis, insteps and heels. Dermatoscopic or microscopic examination of the contents of a burrow may reveal mites, eggs or mite faeces (scybala)



Generalised rash

- ▶ Scabies rash is a hypersensitivity reaction that arises several weeks after initial infestation. It has a varied appearance.
- ▶ Erythematous papules on the trunk and limbs, often follicular
- ▶ Diffuse or nummular dermatitis
- ▶ Urticated erythema
- ▶ Vesicles on palms and soles
- ▶ Acropustulosis (sterile pustules on palms and soles) in infants
- ▶ Papules or nodules in the armpits, groins, buttocks, scrotum and along the shaft of the penis
- ▶ Rare involvement of face and scalp.

Scabies of the infant



Complications of the scabies

- ▶ Secondary infection is due to scratching and the effect of the mite on the skin's ability to fight bacteria



Crusted scabies

- ▶ (previously called Norwegian scabies) is a very contagious variant of scabies in which an individual is infested by thousands or millions of mites living in the surface of the skin.
- ▶ The patient presents with a generalised scaly rash. This is often misdiagnosed as psoriasis or eczema
- ▶ Scale is often prominent in the finger webs, on wrists, elbows, breasts and scrotum.
- ▶ Itch may be absent or minimal.
- ▶ Crusted scabies may affect the scalp.

Crusted scabies

- ▶ Risk factors for crusted scabies include:
- ▶ Very old age
- ▶ Malnutrition
- ▶ Immune deficiency
- ▶ Intellectual deficit
- ▶ Neurological disease
- ▶ A specific inherited immune defect in some otherwise healthy people.
- ▶ A case of crusted scabies is the usual reason for an outbreak of scabies in an institution. Patients and staff in the institution may present with:
- ▶ Usual scabies
- ▶ Crusted scabies
- ▶ Hypersensitivity rash but no burrows, ie, not infested.



The diagnosis

- ▶ The clinical suspicion of scabies in a patient with an itchy rash, especially when reporting itchy household members, can be confirmed by:
- ▶ Dermatoscopy> the mite at the end of a burrow has characteristic jet-plane or hang-glider appearance
- ▶ Microscopic examination of the contents of a burrow

What is the treatment for scabies?

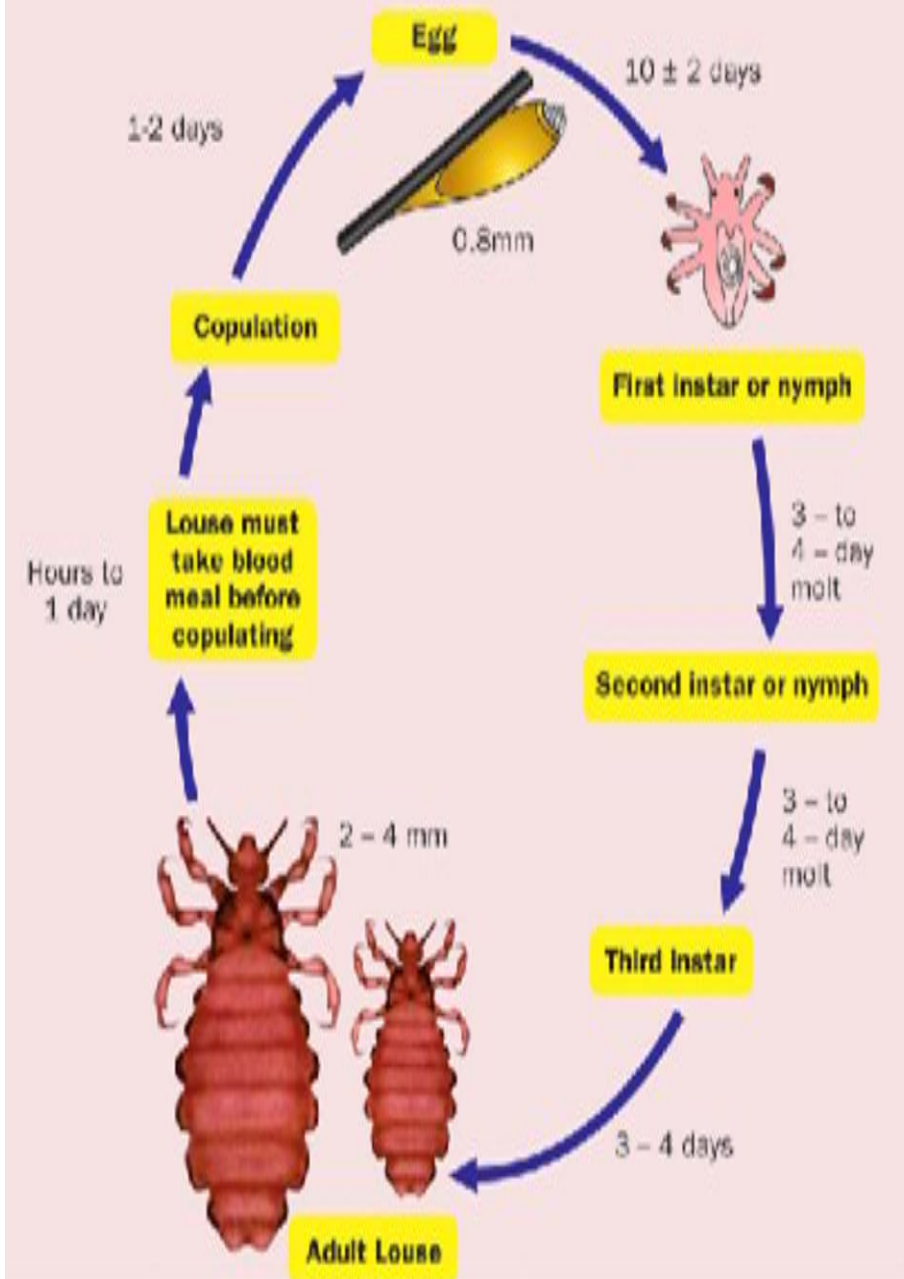
- ▶ Management of a scabies outbreak involves the identification and treatment of individual patients and household contacts with insecticides. Oral antibiotics are required for secondary infection.
- ▶ Careful attention to instructions is essential if scabies is to be cured.
- ▶ The chemical insecticides used to treat scabies are called scabicides. The scabicide is applied to the whole body from the scalp to soles. The usual topical treatment is 5% permethrin cream, left on the entire skin for 8-10 hours. It should be applied under fingernails using a soft brush.
- ▶ 25% benzyl benzoate lotion, applied daily for 3 days. This is irritant, and should not be used in children.
- ▶ Treatment should be repeated after 8-10 days after the first application to catch mites that have newly hatched. Crothamiton cream can be used to reduce itch; it is a weak scabicide.
- ▶ Patients with crusted scabies may need repeated oral and topical treatments over several weeks or longer.

- ▶ contacts must be identified and treated. In addition:
- ▶ Bed linen, towels and clothing should be laundered after treatment.
- ▶ Non-washable items should be sealed in a plastic bag and stored for one week.
- ▶ Rooms should be thoroughly cleaned with normal household products. Fumigation or specialised cleaning is not required.
- ▶ Carpeted floors and upholstered furniture should be vacuumed.
- ▶ Scabies itch and rash are expected to improve within a few days of successful treatment and to completely clear within a month.
- ▶ A rash may persist after scabies treatment. Reasons for this include:
- ▶ Persistent infestation due to incorrectly applied treatment, treatment resistance, or re-infestation due to an untreated contact.
- ▶ The hypersensitivity reaction can be slow to settle, despite the complete cure of parasitic infestation.
- ▶ On-going dermatitis can be due to the mite, the scratching, irritation of topical treatment, or other factors. Persistently itchy papules, nodules and eczematous plaques should be treated with frequent applications of emollients and mild topical steroids once or twice daily.

Pediculosis

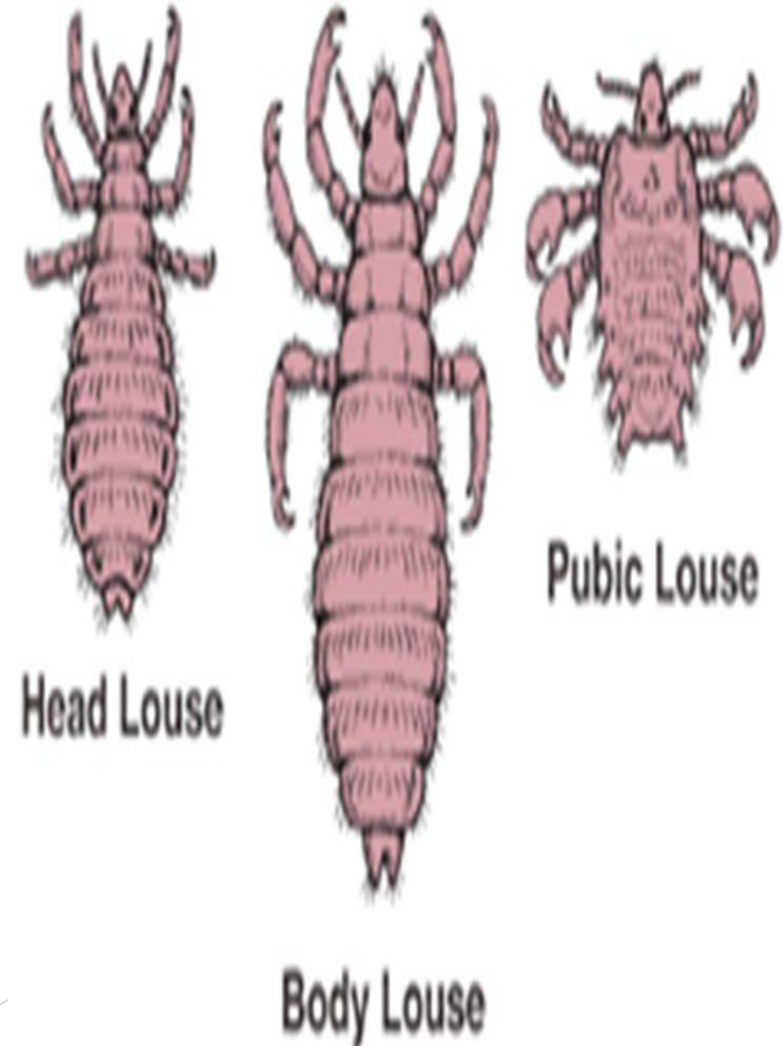
- ▶ Pediculosis is an infestation of the hairy parts of the body or clothing with the eggs, larvae or adults of lice. The crawling stages of this insect feed on human blood, which can result in severe itching.
- ▶ Anyone may become louse infested under suitable conditions of exposure.
- ▶ Pediculosis is easily transmitted from person to person during direct contact.
- ▶ Head lice infestations are frequently found in school settings or institutions.
- ▶ Crab lice infestations can be found among sexually active individuals.
- ▶ Body lice infestation can be found in people living in crowded, unsanitary conditions where clothing is infrequently changed or laundered.

Life cycle of *Pediculus Capitis* (Head lice)

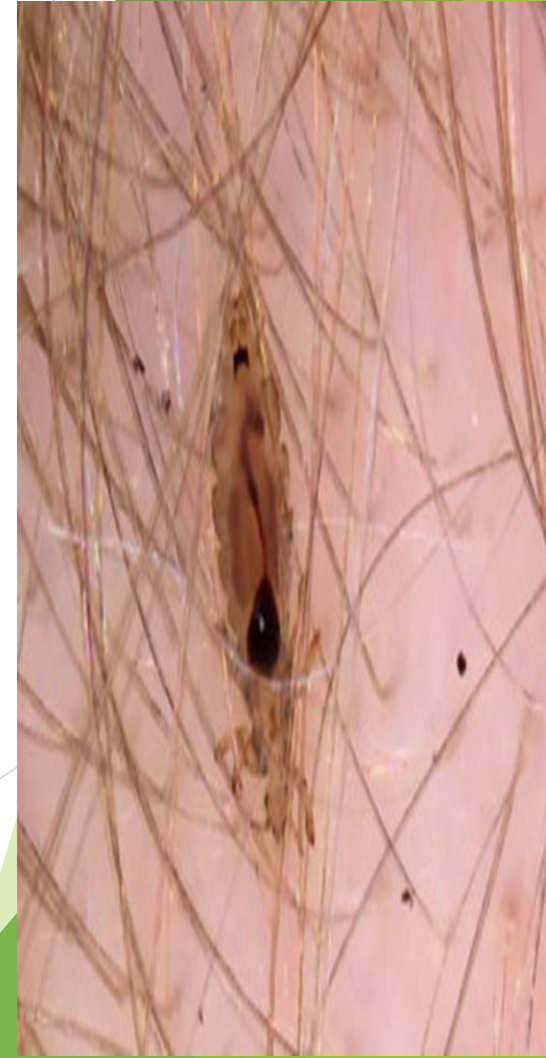


The three species of louse that infest humans are:

- ▶ *Pediculus humanus var. capitis* - The head louse
- ▶ *Pediculus humanus var. humanus* - The body louse.
- ▶ *Phthirus pubis* - The pubic louse.
- ▶ Lice are wingless insects with six legs on which are attached strong claws, which they use to grasp on tightly to hair shafts or clothing fibres.
- ▶ Head lice, the most common infestation in humans, are colloquially known as cooties and their eggs are called nits. Pubic lice are smaller with a short body resembling a crab



- ▶ Despite excellent hygiene, head lice (pediculosis capitis) are very prevalent especially in school children in most societies (one study in the UK found 57% primary school children were infested). The usual organism is *Pediculus humanus capitis*, but *Pthirus pubis* is more common in blacks with curly hair.
- ▶ Scurrying mature live lice are 3 mm in length and are most easily found on the occiput or behind the ears. Black specks of louse dung, and tiny haemorrhagic papules (bites) are often visible.
- ▶ Lice result in irritable crusted papules and sometimes, secondary dermatitis, impetiginisation and lymphadenopathy.
- ▶ The egg cases ('nits') are flask-shaped and 1 mm in length. They are found firmly attached to hair shafts. Empty egg cases are easier to see because they are white and further away from the scalp than grey nits containing live eggs.



- ▶ Scurrying mites are not always readily seen. Occasionally, it is difficult to distinguish egg cases from hair casts. Hair casts generally slide up the hair shaft, whereas egg cases are glued to the hair. Microscopy may be helpful.
- ▶ Other conditions to consider:
- ▶ Seborrhoeic dermatitis
- ▶ Psoriasis
- ▶ Irritant dermatitis from insecticide use
- ▶ Acne necrotica

Management

- ▶ children should be taught not to share hats, scarves, headbands, combs and brushes, as adult lice can survive up to three days away from a host. However, lice usually are spread through direct head-to-head contact.



Treatment

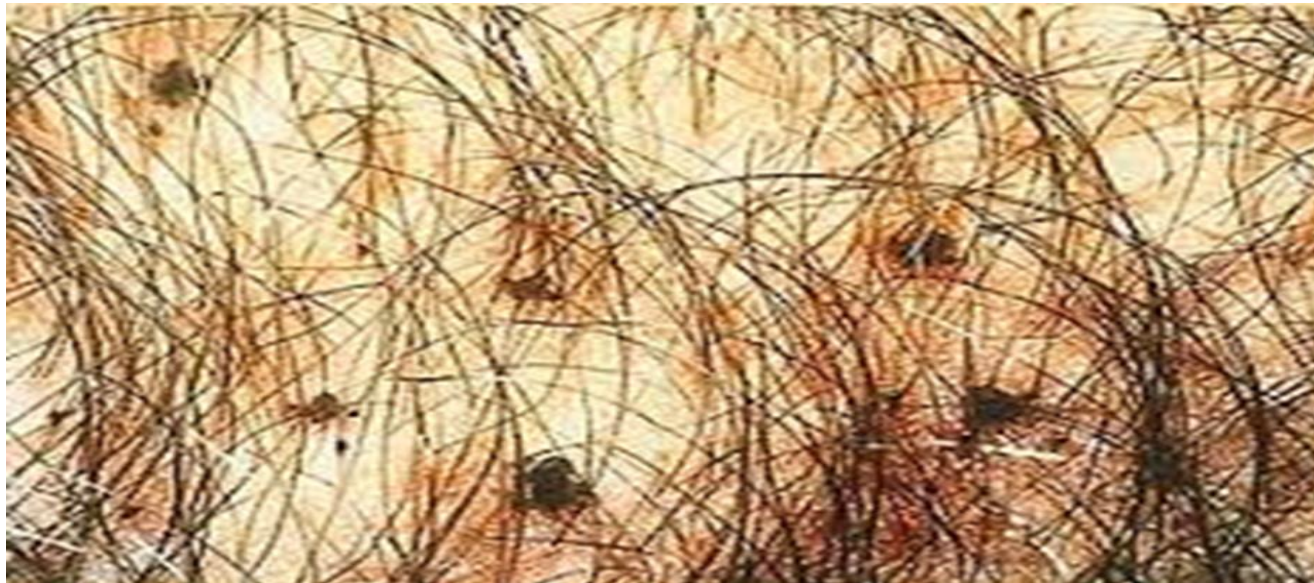
- ▶ Treatment of infestation should include:
- ▶ Application of insecticide foam, shampoo or liquid, repeated in one week
- ▶ Wet hair with vinegar to loosen nits
- ▶ Vigorous and repeated combing using a fine-toothed comb
- ▶ Regular scalp inspections
- ▶ Hot wash towels, sheets, pillowcases, clothing, brushes
- ▶ Isolate stuffed toys and other non-washable fomites for one week

Treatment

- ▶ Topical insecticides are neurotoxic and are not effective against young nits. They include:
 - ▶ Gamma benzene hexachloride: neurotoxic, increasing levels of resistance
 - ▶ Pyrethroids: safe, may irritate
 - ▶ Permethrin: if necessary, extend time of application to overnight treatment under a shower cap
 - ▶ Malathion: flammable.

Pubic lice

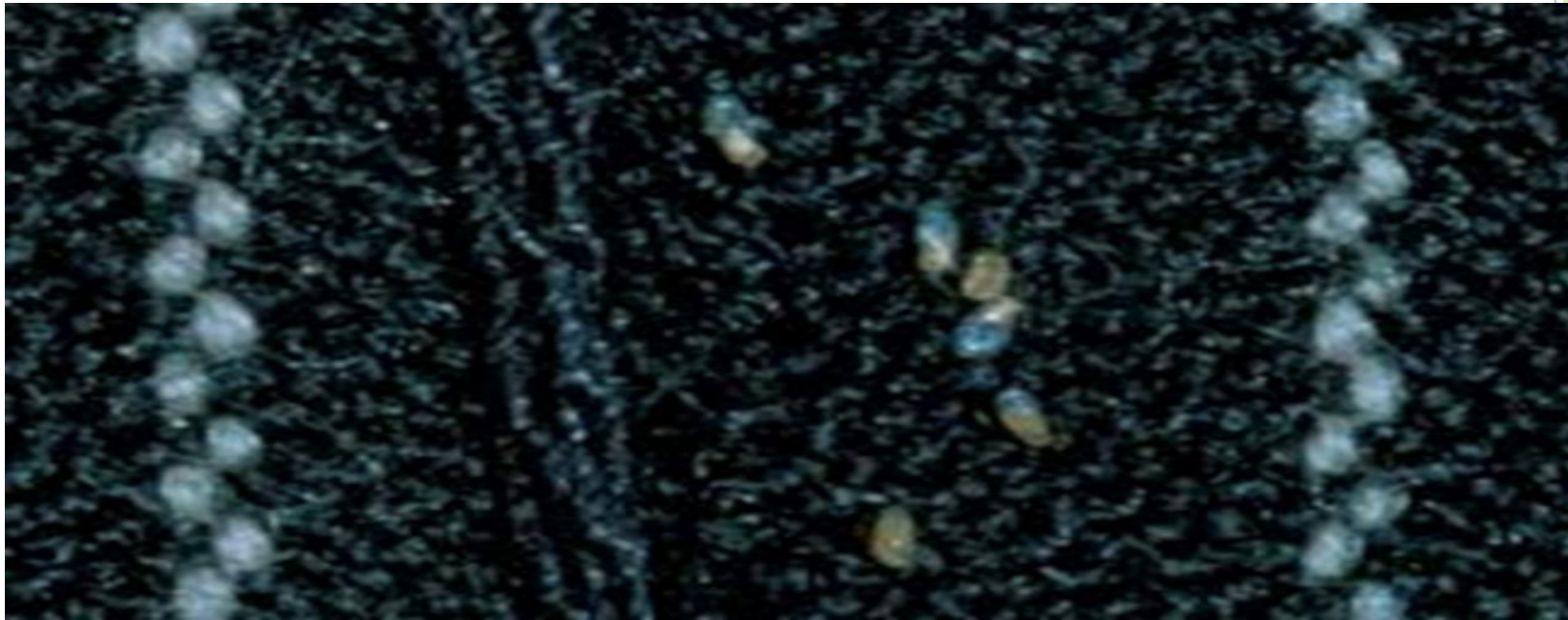
- ▶ Pubic lice or crabs are easily transmitted sexually. The pubic hair is most common site but lice can spread to other hairy parts of the body including armpit, beard, chest hair and thigh hair. Eyelashes can also be affected. Infestation presents as itching, but blood specks on underclothes and live lice moving in the pubic hair are occasionally noted.



- ▶ An insecticide such as Prioderm Cream Shampoo (malathion 1%) should be applied to all hairy parts of the body apart from the eyelids and scalp. It is washed off after 5 to 10 minutes and any remaining nits should be removed by using a fine toothed comb. A repeat application is advisable 7 days later.
- ▶ Lice and nits can be removed from eyelashes by using a pair of fine forceps. Alternatively petroleum jelly, such as Vaseline can be smeared on the eyelashes twice a day for at least 3 weeks.
- ▶ Underwear and bed linen should be washed thoroughly in hot water to prevent recurrences. Sexual partners need to be treated even if they deny itching and do not appear to be infected

Body lice

- ▶ Body lice tend to infest people in extreme states of poverty or personal neglect. The eggs of body lice are laid and glued to cloth fibres instead of hair, and the lice feed off the skin. Regular hot washing of clothes and bathing has led to a decrease in incidence of body lice but during wartime and in some undeveloped countries the condition can still occur.
- ▶ Body lice in the past have been responsible for spreading diseases such as typhus. However because of the decline in numbers of people infested with body lice this is no longer a significant problem.
- ▶ Similar insecticides used in the treatment of head lice are used in the treatment of body lice. Hot washing of clothes and bathing should be emphasized



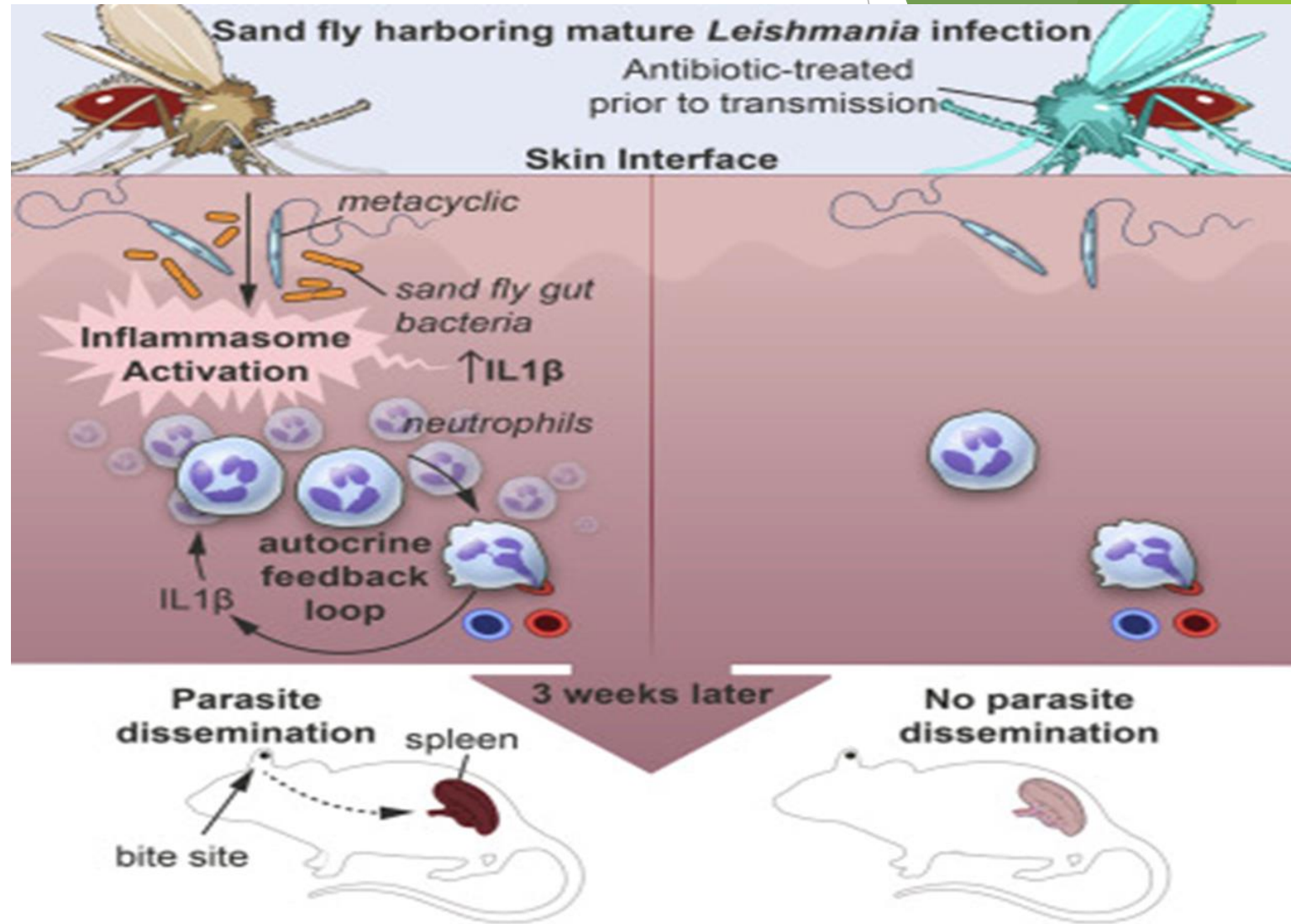
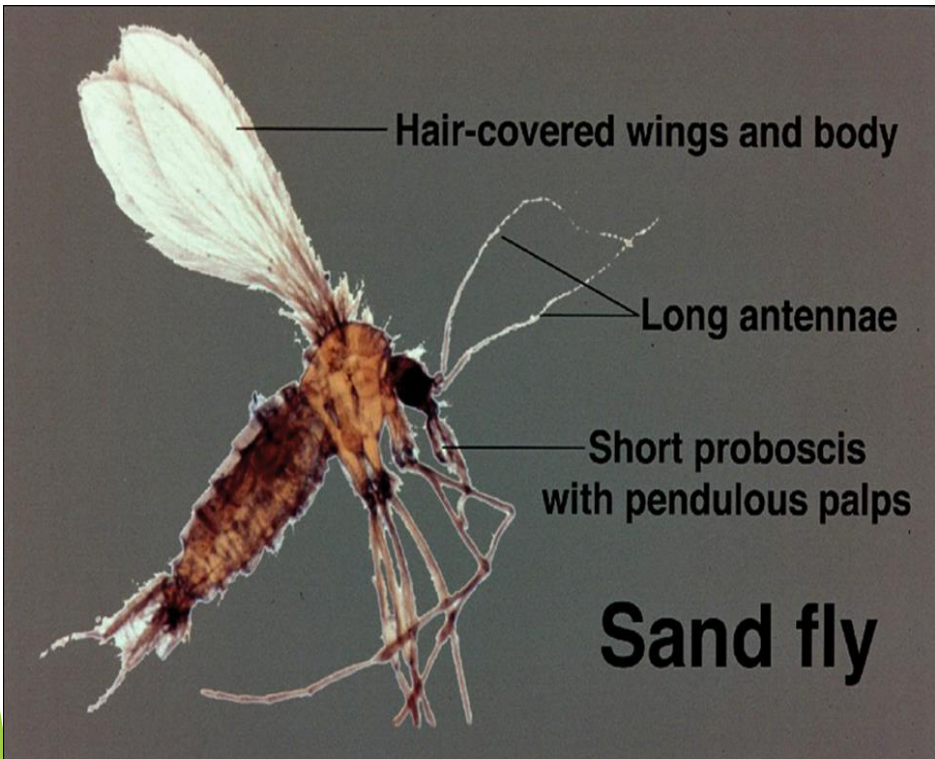
Cutaneous leishmania

What is leishmaniasis?

- ▶ Leishmaniasis is a parasitic disease transmitted by sandflies infected with the protozoa *Leishmania*.
- ▶ Leishmaniasis is endemic in more than 70 countries worldwide and affects an estimated 12 million people.
- ▶ There are several clinical forms of leishmaniasis.
- ▶ The clinical manifestation of the infection depends on the species of *Leishmania*, which varies with geographical area and the host's immune response.



- ▶ people of all ages, living or travelling through areas where sandflies and *Leishmania* species are endemic are at risk of infection with leishmaniasis. Living in rural areas and spending time on or near the ground increases the risk.



Classification and causes of leishmaniasis

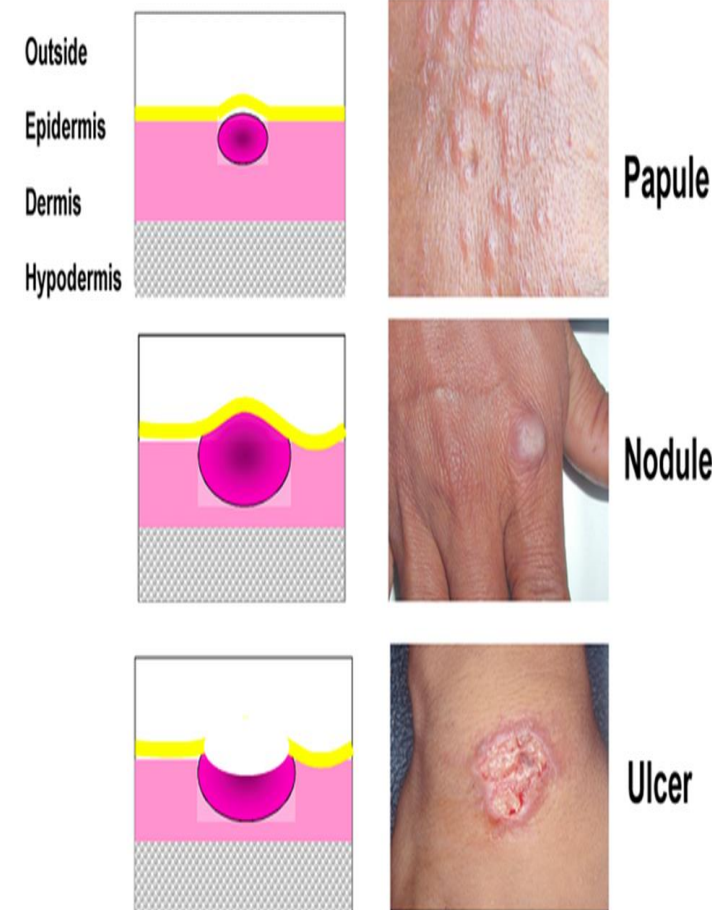
- ▶ There are more than 20 species of Leishmania parasites which can infect humans; transmitted via the bite of phlebotomine sandflies. Sandflies are tiny (1.5-3 mm) insects which actively feed on blood at dawn and dusk.
- ▶ Sandflies live in wall cracks, animal burrows and leaf litter, in tropical and sub-tropical regions.
- ▶ Their bite is asymptomatic and classically on exposed sites.
- ▶ Leishmaniasis has several recognized clinical forms, and their manifestation depends upon the species inoculated and the host's immune response.
- ▶ The most important distinction is between American and non-American species of Leishmania, as the Viannia subspecies found in the Americas, can result in mucocutaneous leishmaniasis.

Cutaneous leishmaniasis

- ▶ Cutaneous leishmaniasis typically occurs at the site of inoculation. The presentation and prognosis will vary depending on the species involved.
- ▶ Non-American (Old World) cutaneous leishmaniasis:
 - ▶ Middle East, North Africa, Asia
 - ▶ *L major*, *L tropica*, *L infantum*, *L donovani*
 - ▶ Synonyms: oriental sore, Baghdad boil, Dehli boil, saldana, Aleppo button, granuloma endemicum.
- ▶ American (New World) cutaneous leishmaniasis:
 - ▶ Central and South America
 - ▶ *L mexicana*, *L braziliensis*, *L amazonensis*
 - ▶ Synonyms: chiclero ulcer, uta, ulcera de Bauru, forest yaws, pian boi, bejuc

Cutaneous leishmaniasis

- ▶ Cutaneous leishmaniasis is the most common form of leishmaniasis
- ▶ Solitary lesions are typical, but multiple lesions do occur
- ▶ The initial lesion is a small red papule, which gradually enlarges up to 2 cm in diameter
- ▶ Central ulceration is typical
- ▶ Ulcers can be moist and exude pus or dry with a crusted scab
- ▶ Sores usually appear on exposed areas of the skin, especially the face and extremities
- ▶ The incubation time between an infected sandfly bite and lesion development is typically 2 weeks to 6 months
- ▶ Lesions are usually painless, and most resolve spontaneously often leaving residual atrophic scarring
- ▶ Time to resolution varies between 2 months to more than a year
- ▶ Sporotrichoid spread with lymphocutaneous nodules may occur
- ▶ Chronic disease can occur, and there is a risk of dissemination in immunodeficient patients



Mucocutaneous leishmaniasis

- ▶ Mucocutaneous leishmaniasis is a destructive form of leishmaniasis, which is only seen with the American species of *Leishmania* (*Viannia* subspecies).
- ▶ American mucocutaneous leishmaniasis:
- ▶ Central and South America
- ▶ *L. braziliensis*, *L. guyanensis*, *L. panamensis*
- ▶ Synonym: espundia

Diffuse cutaneous leishmaniasis

- ▶ Diffuse cutaneous leishmaniasis is a rare presentation resulting from an anergic response to the parasite by the host.
- ▶ Non-American diffuse cutaneous leishmaniasis:
 - ▶ Ethiopia, Kenya
 - ▶ *L aethiopica*.
- ▶ American diffuse cutaneous leishmaniasis:
 - ▶ South America
 - ▶ *L amazonensis*.

Diffuse cutaneous leishmaniasis

- ▶ Diffuse cutaneous leishmaniasis is a specific disease entity; sometimes the term is incorrectly used to describe disseminated or multiple cutaneous leishmaniasis
- ▶ Results from an anergic response to the infection due to reduced cell-mediated immunity
- ▶ Following the primary cutaneous leishmaniasis lesion, non-ulcerative nodules and plaques develop
- ▶ Lesions may be numerous and may extend over the whole body
- ▶ Follows a chronic relapsing or progressive course
- ▶ Often difficult to treat



Visceral leishmaniasis

- ▶ Visceral leishmaniasis results from the involvement of the internal organs and is usually fatal if untreated. It is also known as kala-azar or Dumdum fever.
- ▶ Non-American visceral leishmaniasis:
 - ▶ India, Southern Europe, China, North Africa, Kenya
 - ▶ *L donovani*, *L infantum*, *L tropica*.
- ▶ American visceral leishmaniasis:
 - ▶ Central and South America
 - ▶ *L chagasi*.

Leishmaniasis recidivans

- ▶ Leishmaniasis recidivans is a rare, cutaneous form of leishmaniasis, occurring in patients with a good cellular immune response. It is also known as lupoid leishmaniasis.
- ▶ Non-American leishmaniasis recidivans:
 - ▶ Middle East, India, Southern Europe
 - ▶ *L tropica*.
- ▶ American leishmaniasis recidivans:
 - ▶ Central and South America
 - ▶ *L braziliensis*.

Leishmaniasis recidivans

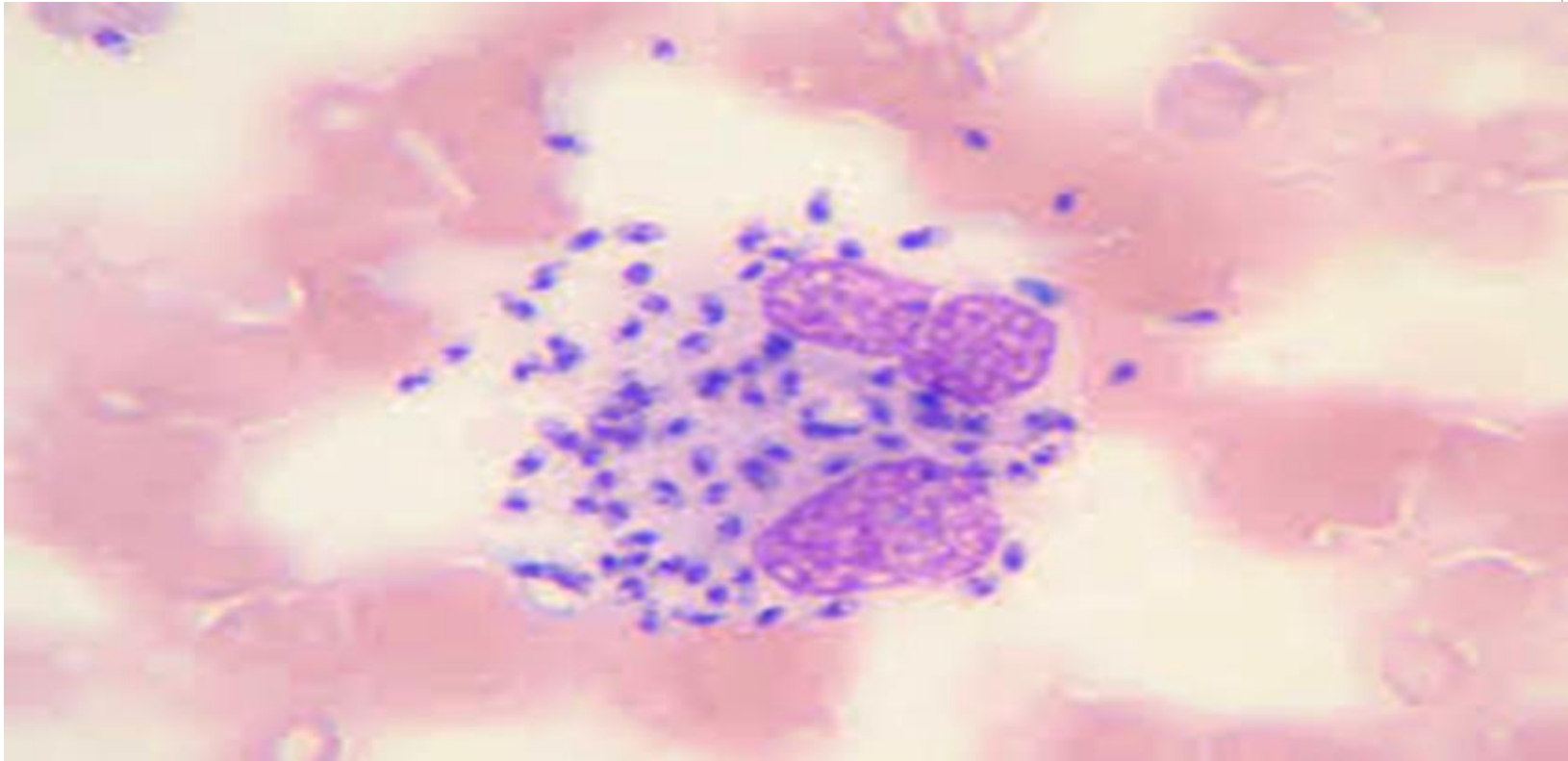
- ▶ Leishmaniasis recidivans occurs in patients with a good cellular immune response
- ▶ Spontaneous resolution of the primary cutaneous lesion is followed by the development of new lesions around the edge of the primary scar
- ▶ The lesions typically ulcerate then heal
- ▶ The cycle continues with a chronic recurrent course, usually over decades



How is cutaneous leishmaniasis diagnosed?

- ▶ Diagnosis of cutaneous leishmaniasis is usually based on the history and clinical appearance of the lesion.
- ▶ A comprehensive travel history, including historical travel due to the long incubation period, is important in non-endemic areas.
- ▶ The diagnosis can be confirmed by identifying the parasite on biopsy or split skin smear.
- ▶ Culture and PCR may also be used to confirm the diagnosis and identify the species of *Leishmania*, which is important when there is a risk of mucocutaneous leishmaniasis.
- ▶ Serology is used to confirm the diagnosis in cases of visceral leishmaniasis.
- ▶ In over 70% of cases, a full-thickness skin biopsy can reveal the parasite. Histopathology is also used to establish mucocutaneous leishmaniasis and visceral leishmaniasis. Complete blood counts and liver function tests should also be performed in visceral leishmaniasis.

intracellular and extracellular amastigotes of *Leishmania infantum* in a splenic smear.



What is the differential diagnosis for leishmaniasis?

- ▶ The variety of clinical manifestations of cutaneous leishmaniasis results in a wide range of differential diagnoses:
- ▶ Insect bites
- ▶ Basal cell carcinoma
- ▶ Squamous cell carcinoma
- ▶ Granuloma annulare
- ▶ Atypical mycobacterial infection
- ▶ Lupus vulgaris
- ▶ Leprosy
- ▶ Actinomycosis
- ▶ Deep fungal infections
- ▶ Sporotrichosis
- ▶ Cutaneous anthrax
- ▶ Ecthyma gangrenosum.

What is the treatment for leishmaniasis?

- ▶ In cutaneous leishmaniasis, treatment options differ depending on whether the lesion/s is considered simple or complex.
- ▶ Treatment options for cutaneous leishmaniasis lesions include:
- ▶ Self-healing (simple lesions only).

- ▶ Topical non-antimonial treatments:
- ▶ Cryotherapy
- ▶ Heat therapy
- ▶ Photodynamic therapy
- ▶ Imiquimod
- ▶ Topical paromomycin (also known as aminosidine)

- ▶ Intralesional antimonials:
- ▶ Sodium stibogluconate
- ▶ Meglumine antimoniate

▶ Non-antimonial systemic therapies:

▶ Amphotericin B

▶ Miltefosine

▶ Pentamidine

▶ Azole antifungal drugs: itraconazole, fluconazole, ketoconazole

▶ Paromomycin

▶ Zinc sulfate

▶ Allopurinol

▶ Systemic antimonials (intravenous or intramuscular):

▶ Sodium stibogluconate

▶ Meglumine antimoniate.

- ▶ Most cases of simple cutaneous leishmaniasis will resolve spontaneously without treatment, but this may take many months and can result in scarring.
- ▶ Systemic antimonials are the mainstay of treatment for complex cutaneous leishmaniasis lesions, mucocutaneous leishmaniasis and visceral leishmaniasis. They cannot be given orally, and the length of treatment may be up to 28 days for mucosal lesions. Treatment requires hospital admission, and there is a risk of side effects, including cardiotoxicity.
- ▶ Refer to guidelines on the management of leishmaniasis published by the Infectious Diseases Society of America (IDSA) and the American Society of Tropical Medicine and Hygiene (ASTMH) (December 2016).

thank you

