**Parasitic Skin Diseases**

**Leishmaniasis**

Leishmania are flagellate protozoans. There are about 30 species, the pathogenic one present in Iraq is Leishmania tropica. The disease also called Baghdad boil. A wide variety of mammals, in most cases rodents, are the natural hosts. Infected patients with widespread or systemic disease are another source of infection in endemic areas. The protozoan is transferred by sandflies (Phlebotomus spp.). Sandflies are low-flying (3 meters) nocturnal insects. Individuals who are infected develop a lifelong immunity. Microscopic examination reveals intense lymphocytic infiltrate; Giemsa stain show the intracellular parasites (2–5 µm) within macrophages. After inoculation, the organisms undergo a complex life cycle in humans. The incubation period is extremely variable depending on size of the inoculum (number of parasites per bite), species of leishmania, and immunological status of the patient, ranging from a few days to several years; the average is 2–4 weeks. For isolation of the parasite, NNN (Novy-MacNeal-Nicolle) medium used for culture.

Acute cutaneous leishmaniasis:

Following the bite, a papule develops, then rapidly enlarges and breaks down in the center. The ulcer usually has a rolled border (volcano sign) and it is asymptomatic unless secondarily infected. The lesion heals over about a year, leaving a distinctive depressed atrophic hyperpigmented scar. Typical sites are exposed areas such as the cheeks and arms.

A classification of acute form:

Dry or urban: Classic form with single lesion as described above (Leishmania tropica).

Wet or rural: More acute infection with multiple lesions (Leishmania major).

Ethiopian: More chronic and less severe (Leishmania aethiopica) but may lead to diffuse cutaneous leishmaniasis.

Leishmaniasis recidivans (chronic lupoid leishmaniasis): A form of either wet or dry leishmaniasis, characterized by chronic course, central healing, and development of serpiginous lupoid nodules at the periphery. They have characteristic apple-jelly color on diascopy.

Diffuse cutaneous leishmaniasis (leishmania diffusa): Rare form in patients who are relatively anergic (lack of immunity to specific antigen) and develop disseminated disease, with both local and hematogenous spread to produce nodular lesions resembling lepromatous leprosy, as well as mucosal disease. Also called anergic cutaneous leishmaniasis. It is caused by Leishmania aethiopica.

Standard treatment is intralesional injection of sodium stibogluconate (Pentostam) diluted 1:3 with a local anesthetic; 1–2 times weekly for 2–4 weeks. Leishmaniasis recidivans and diffuse cutaneous leishmaniasis require systemic therapy with sodium stibogluconate. Sodium stibogluconate is cardiotoxic.

**Pediculosis**

Lice (Pediculus spp.) are blood-sucking, wingless, ectoparasitic insects that infest their victims for long periods of time with a high degree of host specificity.

Pediculosis capitis (Head lice):

Infestation with Pediculus humanus capitis. Often seen in epidemics among kindergarten and grade school children; also common in homeless people. Lice live on the scalp and suck blood there. They firmly attach their eggs (nits) to the hair shaft just at the skin surface. Pruritic eruption on back of scalp and nape; often with excoriations and secondary infections.

Treatment: All agents should be applied twice, 7–14 days apart. Their application is for 30 minutes and rinsed. Malathion 0.5% lotion is most effective. Pyrethrins and the synthetic permethrin have fair action. Lindane (gamma benzene hexachloride) is still widely used. Best solution for nits following treatment is soaking with vinegar and water (50:50) and using a fine-toothed nit comb.

Pediculosis corporis (Body lice):

Infestation with Pediculus humanus corporis. Pediculosis corporis is primarily a disease of the unwashed. It is common in homeless people and during wars and other disasters. The lice feed on the body, but live in the clothing and tend to lay their eggs along the seams. The patient presents with marked pruritus, lack of personal hygiene, and secondarily infected, excoriated dermatitis on trunk. Look for the lice and nits on the clothing, not on the skin.

Treatment: Disinfection of clothing and bedding (boiling, hot ironing, fumigation). Attempt to change living conditions.

Pediculosis pubis (Pubic lice)

Infestation with Phthirus pubis. Usually transmitted by sexual contacts. Patients usually identify moving lice on their pubic hairs. Also complain of pruritus. Nits usually on pubic hair, but occasionally elsewhere (axillary or body hairs; eyelashes, eyebrows). The feeding sites turn into distinctive blue-gray hemorrhagic macules (maculae ceruleae).

Treatment: Permethrin cream or shampoo or lindane lotion or shampoo applied for

30 minutes; repeat in 1 week.

**Scabies**

Intensely pruritic infestation with the mite Sarcoptes scabiei. It lives only on humans. It does not transfer any diseases. Transmission is by close personal contact, such as mother–child, siblings, or sexual partners. Female mites burrow in the epidermis just below the stratum corneum, depositing eggs and feces as they move along. The first infestation remains asymptomatic for a period of weeks, the average incubation period is 3-4 weeks, until an immune response develops and pruritus results. Upon re-infestation, the symptoms appear in a matter of days. On average the patient with usual symptoms and signs has 12 mites.

Clinical features:

Burrows: Fine slightly raised, sometimes erythematous, irregular lines with a terminal swelling where the female mite can be found. Typical sites include interdigital spaces, sides of the hands and feet, flexural surface of the wrist, anterior axillary line, penis, nipples.

Intense pruritus: Few skin diseases itch as much as scabies; usually worst at night.

Dermatitis: Immune reaction (type IV) to mites leads to both pruritus and diffuse exanthem. Typical sites are thighs, buttocks, trunk.

Variations:

–Pyoderma: Pruritus leads to excoriations and erosions which become secondarily infected.

–Scabies incognito: Patients with meticulous personal hygiene (scabies of the cleanly) or those using topical corticosteroids may completely mask the findings of scabies, complaining only of pruritus.

–Nodular scabies: Persistent papules and nodules usually in infants, favoring the groin, axillae, and genitalia. Occasionally seen in adults genitalia a most common site.

–Crusted scabies (Norwegian scabies): Massive scabies infestation with crusted hyperkeratotic, psoriasiform lesions, as well as subungual lesions. Seen in debilitated patients, sometimes in Down syndrome; increasingly common in HIV/AIDS patients.

–Animal scabies: There are over 40 different forms of animal scabies, including those involving cats, dogs, and birds. These mites cannot reproduce on humans. They tend to bite at sites of contact (hands, arms, face if sleeping with pet), cause pruritus without any incubation period, and then die.

Complication: Acarophobia: fear of persistent infection following cure; major psychological problem.

Identification of mite; look at ends of burrows; unroof with fine scalpel and examine under microscope.

Note: Suspect scabies in any unexplained pruritic disease which is worse at night or also present in family members or other contacts.

Treatment:

Scabicidals include: Permethrin 5% cream is the agent of choice. Apply at night, wash in morning; repeat after 1 week. Lindane should not be used in pregnancy or in infants. It is potentially neurotoxic. Sulfur is safe in pregnancy. Bedding and clothing should be washed in hot cycle of washing machine. For resistant cases, epidemics or crusted scabies, Ivermectin 150–400 µg/kg orally administered on days 1 and 14 is highly effective. Crotamiton cream has cure rate of only 70%. Benzyl benzoate lotion is effective but highly irritant to skin.