

Myiasis

Myiasis is:

- The invasion of a living animal by fly larvae -may or may not feed on tissue

Classification of myiasis

1- According to the habit of the fly:

Facultative myiasis

- – Larvae are usually free living saprophages or parasites
- – May enter wounds but normally feed on carrion
- – Adult flies attracted to open wounds and chronic surface sores
- – Adult flies are attracted to and larvae often invade a sick or injured animal and may continue to feed after death of the animal

Obligatory myiasis

- – Require a living host in which to develop

2- According to habitat (Tissue invaded):

Depending on the site of infection, myiasis can be divided broadly into:

A- Cutaneous (Dermal and sub-dermal) myiasis:

- Infection occurs when the fly deposit their eggs on the skin, when hatch the larvae burrow in the dermal layers, invade and enlarge existing wound or form wounds themselves.

1- Wound or traumatic myiasis:

- Major or minor wounds can be the site of egg deposit by a number of fly species. This usually develop in decaying flesh, open sores, and in suppurating wounds.
- Females attracted by blood or pus arising from the wound, lay eggs or larvae near lesions, when eggs hatch, larvae get access to the wound. It is common in unclean hospitals(infection occur after admission, nosocomial infection) and in slaughter houses.
- Examples: *Chrysomia*, *Calliphora* (metallic colored flies), and *Sarcophaga*(flesh flies).

2- Furnucular (nodular) myiasis:

- It is a form of sub-dermal myiasis, the infection occurs when the fly lays eggs or larvae on living tissue or in a soil which may contaminate the skin. When the eggs hatch the larvae burrow into the skin usually near to nose, ear, eye, forearms, and thigh. It causes nodular painful boil like lesion, usually complicated by 2nd bacterial infection.
- Examples: *Dermatobia*, *Cordylobia*, and Screwworm

3- Creeping eruption:

- This type usually affect animals, human is accidentally infected. the infection occurs when the fly lays eggs or larvae on the skin, After penetration of skin by the larvae, it migrates in tortuous channel through the skin and sub-cutaneous tissue. The patient shows local itching, and pain during migration.

- Examples: *Hypoderma* (cattle fly), *Gastrophilus* (horse fly)

B- Ocular myiasis:

- The fly deposited eggs or larvae near to the eye which in turn penetrate the conjunctiva. Some of larvae can spread from skin or nose and reach the conjunctiva. It may cause **external ophthalmomyiasis** (pain and inflammation in the eyes), and some larvae invade the retina causing optic nerve invasion and blindness **internal ophthalmomyiasis**.
- Example: *Hypoderma*

C- Myiasis of the ear (aural):

- Discharge from infected ear attract several species of flies which lay eggs or larvae , reach to the middle ear or can some times to the brain. Larvae may also spread from the skin near to the ear. This causes pain, tinnitus, bad odor, perforation of the drum and deafness.

Examples: *Wahlfahrtia* (flesh worm) and screwworms

D- Myiasis of Nasopharynx:

- Discharge from infected nose attract several species of flies which lay eggs or larvae that creep to reach nose and pharynx. Larvae may also spread from the skin near to the nose. This infection causes pain, oedema, purulent discharge and occlusion of the nose.
- Examples: *Wahlfahrtia and sarcophaga* (flesh flies) and screwworms.

E-Urogenital myiasis:

- Secretions attracts species of flies which deposit their eggs or larvae in urethral opening , larvae migrate to urethra and may migrate to vagina in female patients, and this cause pain and dysuria. Common in poorly uncovered children in areas with high fly population.
- Examples: *Fannia* and *Musca*

F-Intestinal and gastric myiasis:

- Occur through accidental ingestion of fly larvae or eggs in food. The infection may lead to nausea, vomiting, diarrhea, and acute enteritis.
- Examples: *Musca*, *Fannia*, *Sarcophaga*

