

**Name: SUHAIB MUHAMMAD**

**ID: 14794**

**Semester: 4<sup>th</sup>**

**Program: BS (MLT)**

**Instructor: Ms. HUMA IMTIAZ**

**Subject: clinical mycology**

**Date: 15 April 2020**

---

**Question.1:** A 45 years old man, Sikandar is presented to the local hospital having an allergic attack just like asthma. Upon investigation of chest x-ray, fungus balls were seen that changed its position when the patient is moved from an erect to a supine position. What according to you is the possible diagnosis for this condition? What is the causative agent which causes the condition?

**Answer:** The condition which attack is "FUNGUS".

The causative agent which cause this condition is "ASPERGILLUS FUMIGATUS".

---

**Question.2:** Discuss the following.

- a. Definitive host.
- b. Intermediate host.
- c. Vector.

**Answer:**

- **Definitive host:** "definitive host is organism in which the adult or sexually mature stage of the parasite lives."
  - **Intermediate host:** "intermediate host is a organism in which the parasite lives during a period of its development only."
  - **Vector:** "vector is a living carrier (e.g. an arthropod) that transport a pathogenic organisms from an infected to a non-infected host." A typical example is the female Anopheles mosquito that transmission malaria.
- 

**Question.3:** Explain the transmission and life cycle of plasmodium in your own words.

**Answer:**

**Transmission:** Malaria is transmitted primarily by the mosquito bites. But transmission across the placenta, in blood transfusions, and by intravenous drug abuse also occurs.

**Life Cycle:**

- There are two phases in the life cycle of plasmodium:

- The sexual cycle, which occur primarily in mosquitoes, and the asexual cycle, which occur in human, the intermediate hosts.
- The sexual cycle is known as sporogony because sporozoites are produced, and the asexual cycle as known as schizogony because schizonts are made.
- The life cycle in human begins with the introduction are sporozoites to the blood from the saliva of the biting mosquitos.
- The sporozoites are taken up by hepatocytes within 30 minutes. This "exoerythrocytic" phase consists of cell multiplication and differentiation into **merozoites**.
- Merozoites are released from the liver cells and infect red blood cells.
- During the erythrocytic phase, the organism differentiates into a ring-shaped trophozoite.
- The ring form grows and then differentiates into a schizont filled with merozoites.
- After release, the merozoites infect other erythrocytes
- This cycle in the red blood cell repeats at regular intervals typical for each species.
- The periodic release of merozoites causes the typical recurrent symptoms of chills, fever, and sweats seen in malaria patients.
- The cycle begins in the human red blood cells when some merozoites develop into male and others into female gametocytes.
- The gametocyte-containing red blood cells are ingested by the female *Anopheles* mosquito and, within her gut, produce a female macrogamete and eight sperm like male microgametes.
- After fertilization, the diploid zygote differentiates into a motile ookinete that burrows into the gut wall, where it grows into an oocyst within which many haploid sporozoites are produced
- The sporozoites are released and migrate to the salivary glands, ready to complete the cycle when the mosquito takes her next blood meal

**THE END...**

---