

## TD2 Correction

### Leishmaniasis

#### Text:

Leishmaniasis is a parasitic *disease* that is found in parts of the tropics, subtropics, and *southern* Europe. Leishmaniasis is caused by infection with *Leishmania* parasites, which are *spread* by the bite of infected *sand flies*. There are several different forms of leishmaniasis in people. The most common forms are **cutaneous leishmaniasis**, which causes skin sores, and **visceral leishmaniasis**, which affects several internal organs (usually spleen, liver, and bone marrow).

Leishmaniasis is a vectorborne disease that is transmitted by sand flies and caused by obligate intracellular protozoa of the genus *Leishmania*. Human infection is caused by more than 20 species. These include the *L. donovani* complex with 2 species (*L. donovani*, *L. infantum* [also known as *L. chagasi* in the New World]); the *L. mexicana* complex with 3 main species (*L. mexicana*, *L. amazonensis*, and *L. venezuelensis*); *L. tropica*; *L. major*; *L. aethiopica*; and the subgenus *Viannia* with 4 main species (*L. [V.] braziliensis*, *L. [V.] guyanensis*, *L. [V.] panamensis*, and *L. [V.] peruviana*). The different species are morphologically *indistinguishable*, but they can be differentiated by isoenzyme analysis, molecular methods, or monoclonal antibodies.

#### Questions:

1. What is the type of microorganisms that cause the leishmaniasis?
2. How many hosts the *leishmania* parasite needs to complete his life cycle?
3. What is the vector of *leishmania* parasite?
4. What are the common forms of leishmaniasis infection?
5. Did all the *leishmania* species affect humans?
6. Can we distinguish morphologically the *leishmania* species? If not, what are the methods that we can use to identify them?
7. Translate the italic words into Arabic and French language.
8. Give the definition of the underlined words.
9. What are the verb conjugation tenses used in the text?

#### Correction:

- 1- *Leishmania* parasites causes the leishmaniasis

- 2- *Leishmania* needs two hosts to complete his live cycle
- 3- the vector of *leishmania* parasite is the insect called sand fly
- 4- Cutaneous leishmaniasis and visceral leishmaniasis
- 5- No, there are *leishmania* species that can infect other vertebrates
- 6- No, but they can be differentiated by isoenzyme analysis, molecular methods, or monoclonal antibodies.
- 7- Synonyms:

| English                  | French                                  | Arabic         |
|--------------------------|---|----------------|
| <b>Disease</b>           | Maladie                                 | مرض            |
| <b>Southern</b>          | Du Sud                                  | جنوبي          |
| <b>Spread</b>            | Propagation / diffusion /<br>dispersion | انتشار         |
| <b>Sand flies</b>        | Phlébotome                              | ذباب الرمل     |
| <b>Indistinguishable</b> | Indifférenciable                        | لا يمكن تمييزه |

- 8- Definition:

**Isoenzyme analysis:** it is a method utilizes electrophoretic banding patterns to examine the differences in the structure and mobility of a number of intracellular enzymes exists between individual isoforms (from species to species)

**Molecular methods:** combines laboratory testing with the precision of molecular biology.

**Monoclonal antibodies:** they are antibodies made in a laboratory to fight a particular infection than are given to the patient directly in an infusion.

- 9- The verb conjugation tenses used in the text: Simple present (is / causes...).