**Protozoan diseases: Toxoplasmosis**

Toxoplasmosis is a disease caused by the protozoan *Toxoplasma gondii.*  The disease in adult human is frequently mild or asymptomatic. Mild symptoms include fatigue, fever, sore throat, malaise, rash and headache. However, the disease in the immunocompromised patient is usually a severe, life threatening one, the symptoms manifested are encephalitis (inflammation of the brain), myocarditis (inflammation of the myocardium or muscular tissues of the heart), and pneumonia. The disease can also be acquired congenitally by human embryo or newborn infants are infected late in fetal development. The consequence of these infections are very severe. There is central nervous system involvement resulting in mental retardation and severe visual impairment or blindness, convulsions, fever and an enlarged liver also may be present.

Toxoplasmosis is worldwide in distribution and is one of the most common infections of humans. The organism also infects all orders of mammals as well as many birds and some species of reptiles.

*Toxoplasma gondii* is a protozoan of the *sporozoa* group. It exists in three forms: trophozoite, cyst and oocyst. The cyst and oocyst are the principle forms in which the protozoan is transmitted. The crescent-shaped trophozoite forms invades mammalian cells (except erythrocytes) and is the form found in acute human infections. The organism is spread by the ingestion of oocysts that are excreted in the feces of cats and by ingestion of undercooked pork and mutton containing cysts.

Diagnosis may be made by isolation of the parasite, by histologic demonstration of the organisms in tissues or by serology. A number of serological tests are available. In the Sabin-Feldman dye exclusion tests, living *Toxoplasma* cells are stained with methylene blue in the presence of the patient’s serum. In the absence of specific antibodies, the cells are stained with the dye. In the presence of antibodies, the dye is excluded from the cells.

References

1. Jawetz, Medical Microbiology, twenty-third edition, International edition
2. Pelczar, Microbiology, fifth edition, McGraw Hill Education (India) Private Limited