

10. PROTOZOAN INFECTIONS

Protozoan infections are classed as parasitic zoonoses. As previously noted, only the most important of these infections are considered in this report (see Introduction).

10.1 Toxoplasmosis

Although there is no evidence of transmission of toxoplasmosis between man and lower animals, *Toxoplasma gondii* is widely distributed throughout the animal kingdom, including most of the important domesticated animals. It has been found in several countries that in individuals who have rural backgrounds or who have had contact with animals early in life there is a higher prevalence of reactivity to the toxoplasmic skin test than is found in the general population.

Toxoplasmosis in man manifests itself either as a congenital infection of newborn infants, with cranial deformities and associated brain damage, or as an acquired infection in adults that may result in abortion, eye lesions, lymphadenitis, and general malaise. No entirely satisfactory method of treatment is available; in man, the preferred treatment is the administration of pyrimethamine and triple sulfonamides.

Fatal epizootics have been reported in chickens, swine, rabbits, and mink. Spontaneous abortion in sheep and goats is a frequent complication of toxoplasmosis in some parts of the world.

The diagnosis of toxoplasmosis depends primarily on serologic tests. Whenever possible, verification of infection by demonstration of the organism should be attempted. Susceptible mice should be inoculated with material from enlarged lymph nodes or with sputum or urine.

Of the immunologic tests that have been developed for the diagnosis of toxoplasmosis, the intradermal, complement-fixation, passive haemagglutination, and methylene blue dye tests have been widely used. An indirect fluorescent antibody test, agglutination tests with *Toxoplasma* organisms, and latex and bentonite flocculation techniques show promise but require further evaluation.

The methylene blue dye test involves the use of living virulent *Toxoplasma* organisms, which must be maintained in mice or in tissue cultures. A human serum containing an "accessory factor" is also needed, but this may be difficult to obtain and to standardize. Due to the exacting nature of the technique, it can be performed only by skilled personnel in special laboratories.

The complement-fixation test has a lower sensitivity than the dye test and does not detect antibody as early as the latter.