

Introduction

Introduction

Toxoplasma gondii is a protozoan parasite that is estimated to infect one-third of the world's human population (*Weiss and Dubey, 2009*).

Toxoplasmosis can cause fetal infection if it is acquired during pregnancy, with unpredictable manifestations in the fetus and neonate (*Foulon et al., 2000*). Within immunocompetent humans, toxoplasmosis is benign and self limited (*Barbosa et al., 2008*). Toxoplasmosis is a major opportunistic infection that may lead to morbidity and mortality in immunocompromised individuals (*Meeka et al., 2007*).

The interaction of protozoan parasite with innate host defense mechanism is critically determining the character of subsequent infection (*Alexander et al., 1997*).

HCV infection is a major cause of chronic liver disease world wide. Nearly 80% of HCV-infected patients developed chronic infection and about 20% progress to cirrhosis (*Seff and Hoofnagle, 2008*).

HCV is a blood borne virus. The main mode of transmission through the transfusion of blood or blood products or through sharing of contaminated needles among drug abusers. A small number of epidemiological studies demonstrate that perinatal, sexual and occupational transmission could occur (*Armstrong et al., 2008*).

HCV is transmissible from the infected mother to her offspring. The rate of HCV infection among infants of mothers with chronic HCV infection was 5% to 6% (*Ohoto et al., 2004*).

Diagnosis of toxoplasmosis in humans is usually made by serological, histological, and molecular methods, or by some combination

of them (*Montoya ,2006*). The direct recovery of *Toxoplasma gondii* from biological samples is often impracticable. Consequently, serological diagnosis represents the most widely used approach for defining the stage of infection (*Sensisni, 2006*).

In clinical practice, serological tests are routinely employed to detect immunoglobulin M (IgM) and immunoglobulin G (IgG) specific antibodies, including indirect immunofluorescence and immunoenzymatic tests (enzyme – linked immunosorbent assay (ELISA), with the latter showing higher sensitivity and specificity (*Remington et al., 2004*).

Toxoplasma gondii infection can cause serious complications in immunocompromised pregnant women leading to miscarriage, still birth and birth defects (eg., mental retardation, blindness, epilepsy etc.) it could also favor or enhance the mother- to- child transmission of HCV (*Simpore et al., 2006*).

HCV shares risk factors and modes of transmission with several other infectious agents such as blood borne virus infections including HIV and Hepatitis B virus, immunodeficiency related infections including Cytomegalovirus, cryptococcosis and toxoplasmosis, sexually transmitted diseases including Gonococcus, Chlamydia, syphilis and genital Herpes (*Hashem et al., 2008*).

The risk of congenital toxoplasmosis increase if the women get it for the first time around the time of pregnancy and being the mother infected with HCV and toxoplasmosis made mother- to- child vertical transmission of toxoplasmosis more of risk (*Alagirl, 2009*).