INTRODUCTION AND AIM OF THE WORK

Viral hepatitis is a major public health problem throughout the world. Hepatitis infections are particularly endemic in certain areas of the world mainly throughout the tropical and subtropical areas ***(WHO, 1983).***

Hepatitis C virus *(HCV)* infection is a major healthy problem being found in 0.5% to 1.5% of blood donors world - wide ***(Dusheiko, 1997).***

The prevalence of *HCV* differs from one country to the other depending on the hygenic measures and environmental factors. In Egypt anti-*HCV* antibodies were detected by second generation enzyme linked immunosorbent assay *(ELISA-2)* in 24.8% of 2644 sera of blood donors from 24 governorates ***(Arthur et al., 1997)***.

Current serological tests for antibodies to hepatities C are unable to differentiate between acute, chronic, or past infections. Another unique problem in diagnosis of hepatitis C is that seroconversion to anti-*HCV* reactivity is delayed until well after the acute phase. Even with the third generation tests, the time from acute illness to the appearance of the first antibodies can range from 3 to 6 weeks ***(Schreiber et al., 1996).***

Detection of *HCV RNA*, typically by reverse transcriptase polymerase chain reaction *(RT-RCR)*, in situ hybridization or branched - chain *DNA (b-DNA)* detection, is the only direct marker of *HCV* infection. A positive *HCV RNA* test suggests viral replication in the liver and validates a diagnosis of either acute or chronic hepatitis C. Viral *RNA* may become detectable within days from infection by *PCR* ***(Dore et al., 1997).***

Since the *HCV* genome was first cloned and sequenced, considerable sequence diversity among *HCV* isolated from various geographical regions has been reported. Genetic variant of *HCV* have been classified into six major genotypes, with several subtypes on the basis of nucleotide sequence homology and phylogenetic analysis ***(Simmonds et al., 1994)***. From the clinical point of view, it is important to correlate genotypes with clinical manifestation, antigenic differences, complications and therapeutic response to interferon ***(Altamirano et al., 1995)***.

The aim of this work is to evaluate the positive and negative results of *ELISA* among blood donors by *RT-PCR* and detection of the most prevalent *HCV* genotype.