Summary

Hepatitis C virus (HCV) accounts for a sizable proportion of cases of chronic liver disease, liver disease deaths and cases of hepatocellular carcinoma and represents the most common indication for liver transplantation .

The World Health Organization has considered HCV as a global health problem, with approximately 3% of the world's population (roughly 170-200 million people) infected with hepatitis C virus with considerable regional variations

Egyptian Demographic Health Survey (EDHS) in 2008 estimated an overall anti-HCV antibody prevalence of 14.7%, and the number of Egyptians estimated to be chronically infected (detected viral RNA by PCR) was 9.8%. HCV is currently the most significant public health problem in Egypt

The currently recommended therapy for chronic HCV infection genotype 4 is the combination of a pegylated interferon alpha plus weight based ribavirin administered for 48 weeks

AFP is not detectable in the sera of adults. However, production of AFP in adults occurs during liver regeneration and hepatocarcinogenesis. Therefore, AFP has been used as a diagnostic marker for HCC **,** although AFP levels are sometimes elevated in patients with chronic hepatitis and cirrhosis who have no evidence of HCC .

The aim of the Study is to find the Impact of treatment of chronic HCV with Pegylated interferon and ribavirin on Alpha-fetoprotein levels in different treatment outcomes.

This study was conducted on 250 patients with chronic HCV who attended El-fayoum Insurance Hospital (from May 2011 to March 2013), who were naïve to treatment with combination therapy with Peg-INF/RBV.

All patients were subjected to clinical assessment, laboratory investigations, liver biopsy, AFP was measured before starting treatment of chronic HCV with the combination therapy Peg-INF/RBV and at end of therapy (whatever the outcome) and after six months for whom reached SVR .

The combined therapy Peg-INF/RBV significantly decreased the serum AFP level in patients with chronic viral hepatitis C(responders and non responders) and remained lower than the pretreatment level in relapsers and whom reached SVR.

The mean AFP ± SD within the non-responders (positive PCR at week 12) (7.3 ± 4.5)before treatment and it was (5.02 ± SD 4.1)after treatment.

The mean AFP ± SD within the breakthrough (positive PCR at week 24) (8.9 ± 9.1) before treatment and (3.9 ± SD 2.3) after treatment.

The mean AFP ± SD within the non-responders (positive PCR at week 48) and (4.9 ± 3.7)before treatment and (3.7 ± 3.6) after treatment.

The mean AFP ± SD within the relapsers (positive PCR at week 72) and (3.9 ± 2.2)before treatment and it was (2.4 ± 1.8)at end of treatment (week 48) and (2.9 ± 1.7) 6 months after treatment.

The mean AFP ± SD within the responders (negative PCR at week 72) (4.1 ± 2.8)before treatment and (2± 0.87)at end of treatment (week 48) and (2.02 ± 0.9) 6 months after treatment.

Our results revealed that serum AFP level decreased after IFN therapy regardless of the virologic response.

Only trace amount of AFP is synthesized in the adult liver. Its expression increases during regenerative hepatocyte growth and in carcinogenesis. the decrease in serum AFP levels observed in our patients due to IFN treatment may suggest that this drug plays a role in slowing the progression of chronic viral hepatitis toward liver cirrhosis and hepatocellular carcinoma.

Further studies in which patients are treated by the current standard protocol-Peg- IFN with ribavirin-for a set period of time to confirm therelationship between changes in serum AFP level associated with IFN therapy and the development of HCC.