Summary & Conclusion

Hepatitis C virus infection is a major cause of chronic liver disease worldwide; approximately 170 million people are infected. Chronic infection occurs in 50-80% of cases and eventually leads to cirrhosis and hepatocellular carcinoma**.** Egypt has possibly the highest hepatitis C virus prevalence worldwide.

Therapies for the management of chronic hepatitis C (CHC) have developed from monotherapy to pegylated interferon α (PEG-IFN α) and ribavirin combination therapy, which is now regarded as the standard of therapy. However, responses are not uniform across all genotypes and it is not possible to predict those patients who will benefit from therapy.

The molecular mechanisms underlying lack of therapeutic response remain unknown. Considering the length of antiviral therapy, as well as its side effects and costs, accurate prediction of treatment response prior to initiation of treatment is critical. A number of host and viral related factors have been identified that influence treatment outcomes and independently predict response to treatment.

The objective of the present study was to retrospectively evaluate the effect of some of host and viral parameters on early virological response to combined therapy with peg-interferon and ribavirin in chronic HCV patients of genotype 4 and the Predictors of response to the proposed treatment.

This study has been conducted on 380 patients suffering from chronic hepatitis C who were previously diagnosed and treated in hepatology research unit at Tanta fever hospital. These patients received antiviral treatment in the form of pegylated interferon alfa-2a

(180mcg/week) & pegylated interferon alpha 2b (1.5 mcg / kg BW once weekly) with oral ribavirin (800-1200 mg/d) based on the body weight (<75 kg or >75 kg respectively).

All patients were subjected to: history taking, clinical examination, BMI was calculated, routine laboratory investigations as a preparation of IFN therapy (which included CBC, complete liver biochemical profile, serum creatinine, FBS, ANA, AFP, Anti Bilharzial antibody, Free TSH, HBsAg and Quantitative HCV RNA by PCR), Abdominal ultrasonography, liver biopsy for histopathology assessment according to METAVIR. The end point of the study is early virological response defined as a drop of ≥ 2 log in serum HCV viral load at 12 weeks after start of therapy.

The early virological response to treatment was correlated with the following parameters :

- **Demographic factors** (age, gender and BMI)
- **Type of pegylated interferon** (PEG-INF alfa 2a or PEG-INF alfa 2b)
- **Liver biochemical profile** (Total bilirubin, Alkaline phophatase, albumin, AST and ALT)
- **Ultrasound finding** (US hepatomegaly and US splenomegaly)
- **diabetic status**
- **Viral kinetics:** HCV viral load
- **liver Histopathology:** stage of fibrosis and grade of activity according to METAVIR score.
- **blood parameters** (HB, Platelet, WBCs)

The results of this study showed that virological responders were 306 out of 380 patients (80.5%) while 74 patients (19.5%) failed to achieve response.

From the results of our study we can conclude that:

- Baseline factors found to be independently predictive for the absence of EVR were: BMI > 30 kg/ m^2, AFP >10 ng/ml, High viraemia (PCR > 1 million IU/ml.), Diabetes mellitus, Advanced fibrosis (F3-F4) according to METAVIR score.

- There are a negative correlation between BMI and response to combined therapy and BMI could be considered as predictor of response to therapy.

- There are a negative correlation between fibrosis stage and response to combined therapy and fibrosis stage could be considered as predictor of response to therapy.

- Diabetes mellitus had a negative impact on response to combined therapy and diabetes was an independent predictor of a lack of response to treatment. However, it must be taken into consideration the limited number of enrolled diabetic patients in the study.

- There was statistically significant difference between early virological responders and non responders as regarding baseline serum AFP and baseline serum AFP could be used as a predictor of response to treatment.

- There was statistically significant difference in response to treatment regarding baseline viral load and could be used as a predictor of response to treatment.

- The current study couldn't demonstrate statistically any significant correlation between early virological response to treatment and any of the following: age, gender, inflammatory activity grade, abdominal ultrasound finding (hepatomegaly & splenomegaly), liver profile (serum AST, ALT, total bilirubin, albumin, alkaline hosphatase), type of pegylated interferon, CBC parameters (HB, WBCS, Platelet).