



HEPATITIS C; THE INCIDENCE OF RELAPSE AMONG PATIENTS TAKING INTERFERON THERAPY

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ABSTRACT... Background: Hepatitis C virus (HCV) is the most communal source of non-A, non-B viral hepatitis in the world. The disease is illusive, and the majority of patients do not acquire jaundice at its onset. Treatment of hepatitis C with interferon attained a sustained virological response (SVR) in almost 50% of the patients with HCV infection. Viral genotype is important to determine the response. The present study aims to provide the incidence of relapse of HCV in patients taking interferon therapy and to identify the predictors for relapse. **Study Design:** Retrospective observational study. **Setting:** Department of Medicine, DHQ Teaching Hospital, Sargodha. **Period:** Two years. **Methods:** A total of 60 patients were retrospectively evaluated for this study. The exclusion criteria include the patients co-infected with hepatitis B virus or HIV. All the patients were monitored 2, 4, 8, 12, 16, and 24 weeks after the end of treatment with interferon alpha. **Results:** We observed that the patients with relapse were significantly older and heavier (P value < 0.05). At the start of treatment, viral load was higher in relapsed patients (P value < 0.04). **Conclusion:** On the bases of our study findings, we can conclude that low incidence of relapse occurred with interferon therapy. High ALT level, viral loads, older age and obesity were some of strong predictors of relapse among HCV patients.

Key words: Viral Load, Incidence, HCV Infection, Sustained Virological Response.

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INTRODUCTION

It is estimated approximately 3% of the world population is infected with Hepatitis C, which is 170 million worldwide.¹ It is reported that 2.7 million chronically infected persons in the United States only.¹ Hepatitis C virus (HCV) is the most communal source of non-A, non-B viral hepatitis in the world.^{2,3} The disease is illusive, and the majority of patients do not acquire jaundice at its onset.^{4,5} Treatment of hepatitis C with interferon attained a sustained virological response (SVR) in almost 50% of the patients with HCV infection. Viral genotype is important to determine the response.⁶⁻¹⁰ At the end of treatment (EOT) it is presumed HCV eradication in most of the patients accomplishing unnoticeable serum HCV RNA. This remains negative unless 24 weeks reached.¹¹ The odds of HCV appearance are low; once a justifiable virological response has been accomplished.^{12,13}

Relapses usually occur in HCV patients after the

successful EOT within the first 12 weeks in almost all cases with interferon therapy.¹⁴ The present study aims to provide the incidence of relapse of HCV in patients taking interferon therapy and also to identify the predictors for relapse.

MATERIAL AND METHODS

It was a retrospective observational study, conducted at Department of Medicine, DHQ Teaching Hospital, Sargodha. The study period was of two years. A total of 60 patients were retrieved from hospital records for this study. The exclusion criteria include the patients co-infected with hepatitis B virus or HIV, whereas patients of either sex, chronic hepatitis C who were interferon naive and who initiated treatment with interferon at the hospital in Sargodha. Patient's detailed medical history, physical examination and demographics were collected, moreover the viral load, genotypes, doses of treatment, and administration time etc was noted as well. Later Only patients who attained a serum HCV RNA

level 10 IU/mL at the planned EOT were analyzed. All the required parameter readings were noted through standard procedures.

Statistical analysis

All the collected data was stored electronically & analyzed later by using SPSS version 20. Descriptive statistics were applied to calculate mean and standard deviation. Frequency distribution and percentages were calculated for qualitative variables like gender, viral load, and rapid virological response etc. Over all a P values less than 0.05 was considered statistically significant.

RESULTS

This study constitutes a total of 95 patients, with chronic hepatitis C who had initiated treatment with interferon during the one-year study period. Out of the total 35 (37%) of the patients faced early virological failure or viral breakthrough during treatment, discontinued prematurely because of adverse effects, or were lost to follow-up before reaching the planned EOT. Thus after careful consideration we took 60 patients as study sample who had completed the planned duration

of hepatitis C therapy and had undetectable serum HCV RNA. These patients were selected for further analysis. The patients who attained EOT were summarized in Table-I with their main characteristics.

Main characteristics	
Number of initial patients	95
EOT completed	60
Male	33(55%)
Female	27(45%)
Mean Age +SD	44+4.5
Weight	70.2+15.4
Genotype	
1	8 (13.3%)
2	9(15.2%)
3	35 (58.3%)
4, 5 & 6	8 (13.34%)
Sustained virologicresponse (SVR)	40 (70%)
Virologic relapse (VR)	20 (30%)

Table-I. Main characteristics of the patients

We observed that the patients with relapse were significantly older and heavier (P value < 0.05). At the start of treatment, viral load was higher in relapsed patients (P value < 0.04). Moreover the clinical results were summarized in Table-II.

Characteristic	All	VR(n=20)	SVR(n=40)	P value
Age	47.15 + 9.6	48.2 + 9.2	46.1 + 10.1	0.03
Male/Female	33/27	12/8	29/11	NS
Genotype				
1	8 (13.3%)	1 (5%)	6(15%)	NS
2	9 (15.2%)	4 (20%)	9 (22.5%)	
3	35 (58.3%)	13 (65%)	20(50%)	
4	8 (13.34%)	2 (10%)	5 (12.5%)	
Fibro-test stage				
A0-A1	14 (23.34%)	5 (25%)	9 (22.5%)	NS
A2-A3	46 (76.66%)	15 (75%)	31 (77.5%)	
F0-F1	40 (66.67%)	12 (60%)	24 (60%)	
F2-F3	20 (33.333%)	8 (40%)	16 (40%)	
Viral Load				
Total	6.1 + 0.68	6.3 + 0.7	5.9 + 0.67	0.02
ALAT * Normal	2.7 + 1.05	2.0 + 1.1	3.4 + 1.01	NS
Type of Interferon				
2a	40 (70%)	16 (80%)	25 (62.5%)	
2b	20 (30%)	4 (20%)	15 (37.5%)	0.001
Response during Treatment				
RVR		3 (15%)	21 (52.5%)	
EVR		9 (45%)	14 (35%)	0.001
No EVR		8 (40%)	5 (12.5%)	0.002
Hemoglobin at EOT	11.65 + 2.1	11.9 + 2.2	11.4 + 2.0	0.03
Decline in HCV RNA	3.7 + 2.16	3.4 + 2.3	4.0 +2.02	0.004

Table-II. Clinical findings of patients with relapse with a virologic response at EOT

DISCUSSION

This is the first study, which determines the relapse of HCV among patients taking interferon therapy in Pakistan. This also determine the significance of association of relapse with various clinical and treatment factors. Some of these factors were identified in various published studies.¹⁵ In our study we observe that the patient with relapse were significantly older and heavier. This is similar to the findings in other published reports.^{15,16} High body weight has been associated with relapse, In Pakistan; interferon always comes in a dose of 180mcg while the ribavirin dose was adjustable per the body weight. Some other studies emphasized to avoid the under dosage for both therapies in heavier patients.¹⁷ We also report higher hemoglobin level at EOT in relapsed patients. This finding is similar to the results of Sulkowski et al.¹⁸ By implementing the standard dose of interferon constant and controlling the other factors the patient was experiencing lower relapse rate while ribavirin required weight based dosage to attain better relapse rate. This is in correspondence to the results of Fried et al.¹⁹ We observe in our study that the standard dosage of interferon (180mcg) in HCV patients with genotype 2 impact significantly to produce relapse rate. This is more in patients failing to achieve a RVR. Previously a study by Francois et al.²⁰ confirms the earlier statement. However, absence of RVR works as a predictor for HCV relapse. Moreover our study highlights the time at which viral eradication after EOT was considered. Our study reported that out of 20 relapse patients 19 were with HCV RNA, which was detected at EOT. We report no significance to the relapse rate at 12 and 24 weeks after the EOT. This is similar to the other published findings.^{17,20,21} Maximum of the relapse had been detected at 8th week after EOT. Some of the other studies show relapse was detected at 12th week after EOT.¹⁶ However we may conclude the appearance of relapse as early may help us to maximize the success of treatment therapy. It is foresaid that the late relapse is rare, but was nevertheless observed in this study as in previous studies.¹⁶ In our study the viral load was very less in relapsed patients, which was less than 2 log of the baseline value. The study of Hoefs et al. also observes the

same.²³ An immunomodulatory response against HCV may be due to the interferon induction and may therefore sustainably lower viral load (as observed in the present study). Higher “ALT levels” can sometimes suggest relapse before the reappearance of HCV RNA, but this parameter is not sufficiently reliable.

CONCLUSION

On the bases of our study findings, we can conclude that low incidence of relapse occur with interferon therapy. High ALT level, viral loads, older age and obesity may be the some of strong predictors of relapse among HCV patients.

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PREVIOUS RELATED STUDY

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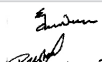
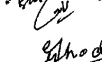
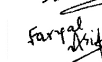
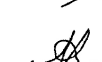
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Being honest may not get you a lot of FRIENDS but it'll always get you RIGHT ONES.

– Unknown –

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