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A RESEARCH STUDY TO ASSESS THE ALPHA-INTERFERON EFFECTIVENESS AMONG MALES SUFFERING FROM HEPATITIS C (HCV)

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Abstract:

Background: *For the treatment of chronic hepatitis C, chemotherapy with different drugs is used a-interferon is one of these drugs.*

Objectives: *The objective of this study was to determine the efficiency of a-interferon in males diagnosed with Hepatitis C.*

Patients and Methods: *This research was completed in the timeframe of February to August 2018 at Jinnah Hospital, Lahore. Total patients were selected for study were 20 males diagnosed with Hepatitis C. The age bracket for these patients was between 24 – 51 years of age. The selected patients were provided with an injection of a-interferon three times a week. After execution of 6 months of chemotherapy, their sera were assessed.*

Results: *The number of patients who became negative for HCV after six months of management with a-interferon was 18 (90%). The levels of serum total bilirubin before and after management with a-interferon were (0.939 ± 0.07) mg/dl and (0.924 ± 0.09) mg/dl respectively which were normal. The outcomes noticed for serum direct and indirect bilirubin were identical. Before treatment, there observed elevated levels of serum Glutamate Pyruvate Transaminase (SGPT) (337.40 ± 75.38) U/I and after management with a-interferon, these levels became normal (26.8 ± 7.42) U/I before and after management with a-interferon, the levels of alkaline phosphatase (ALP) were normal in patients of our study.*

Conclusion: *Virologic and biochemical reactions can be maintained by a-interferon therapy in patients of chronic hepatitis C. Similar to other nations of the world, it is very advantageous for management of SGPT values within a normal range in patients of Hepatitis C.*

Keywords: *Virologic, Alkaline Phosphatase (ALP), Biochemical, a-Interferon, Chronic, Hepatitis C and Bilirubin.*

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INTRODUCTION:

Dietary compounds are maintained in a complicated structure called liver. Toxic compounds are excreted and metabolized by the liver. It is also involved in the composition of various metabolically significant compound [1]. Inflammation of liver occurs due to chronic Hepatitis C. It is followed by cirrhosis of liver, necrosis and fibrosis [2]. In patients of chronic hepatitis C and cirrhosis, there has been observed greater chances of liver cancer [3]. In hepatitis, the test has been for examining liver working are ALP and SGPT. Biliary blockage can be checked through enhanced activity of plasma ALP. Although, it does not point out the region of blockage [4]. Damage of liver can be checked through an enhanced level of cytoplasmic enzyme SGPT. For patients of hepatitis C, the significance of interferon alpha has been considered. In the management of membrane proliferate glomerulonephritis, the interferon alpha may prove effective. It reduces the incidence of end-stage renal disorder with the main economic suggestion for a person and community as well [5]. The objective of this study was to determine to the efficiency of alpha-interferon on the levels of serum bilirubin, Alkaline phosphate and SGPT in patients of Hepatitis C.

MATERIAL AND METHODS:

This research was completed in the timeframe of February to August 2018 at Jinnah Hospital, Lahore. Total patients were selected for study were 20 males diagnosed with Hepatitis C. The age bracket for these patients was between 24 – 51 years of age. The selected patients were provided with an injection of a-interferon three times a week. After execution of 6 months of chemotherapy, their sera were assessed. Before and after chemotherapy with alpha interferon for 6 months, the assessment was made for levels of serum total, ALP, SGPT and direct and indirect bilirubin for all patients. Before and after chemotherapy with alpha interferon, the levels of SGPT in all the selected patients of hepatitis C were measured. Outcomes are illustrated in tables.

By using the kit method of Merck diagnostic [6], serum total bilirubin (STB) was assessed. While by using the technique of Schellong and Wende, the assessment was made for the serum direct bilirubin (SDB) level [7]. Through kinetic calorimetric technique using the kit designed by Merk diagnostic alpha-interferon, the level of serum Alkaline Phosphate was examined by optimized UV test SGPT was estimated [8].

RESULTS:

The number of patients who became negative for HCV after six months of management with a-interferon was 18 (90%). The levels of serum total bilirubin before and after management with a-interferon were (0.939 ± 0.07) mg/dl and (0.924 ± 0.09) mg/dl respectively which were normal. The outcomes noticed for serum direct and indirect bilirubin were identical. Before treatment, there observed elevated levels of serum Glutamate Pyruvate Transaminase (SGPT) (337.40 ± 75.38) U/I and after management with a-interferon, these levels became normal (26.8 ± 7.42) U/I before and after management with a-interferon, the levels of alkaline phosphatase (ALP) were normal in patients of our study. Detailed outcomes are shown in the given tabular data:

Table – I: Serum Values Before and After Treatment

Serums	Before Treatment		After Treatment	
	Mean	**±SD**	**Mean**	**±SD**
Serum Total Bilirubin STB md/dl	0.9359	0.76	0.89	0.89
Serum Direct Bilirubin SDB md/dl	0.503	0.117	1.28	1.28
Serum Indirect Bilirubin SIB md/dl	0.436	0.08	0.073	0.073

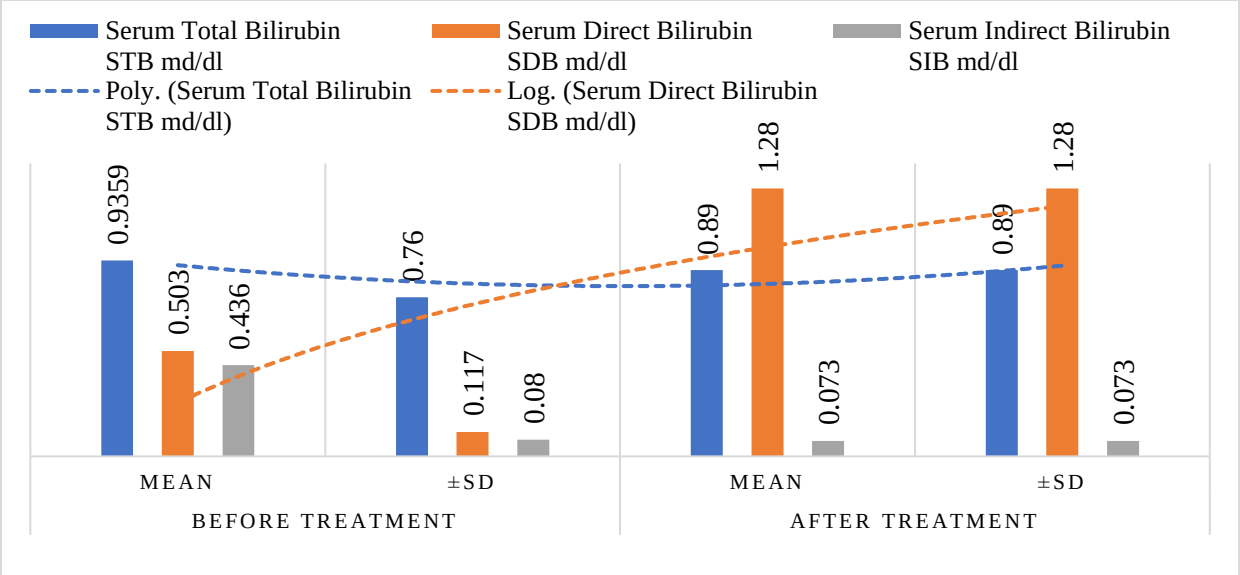
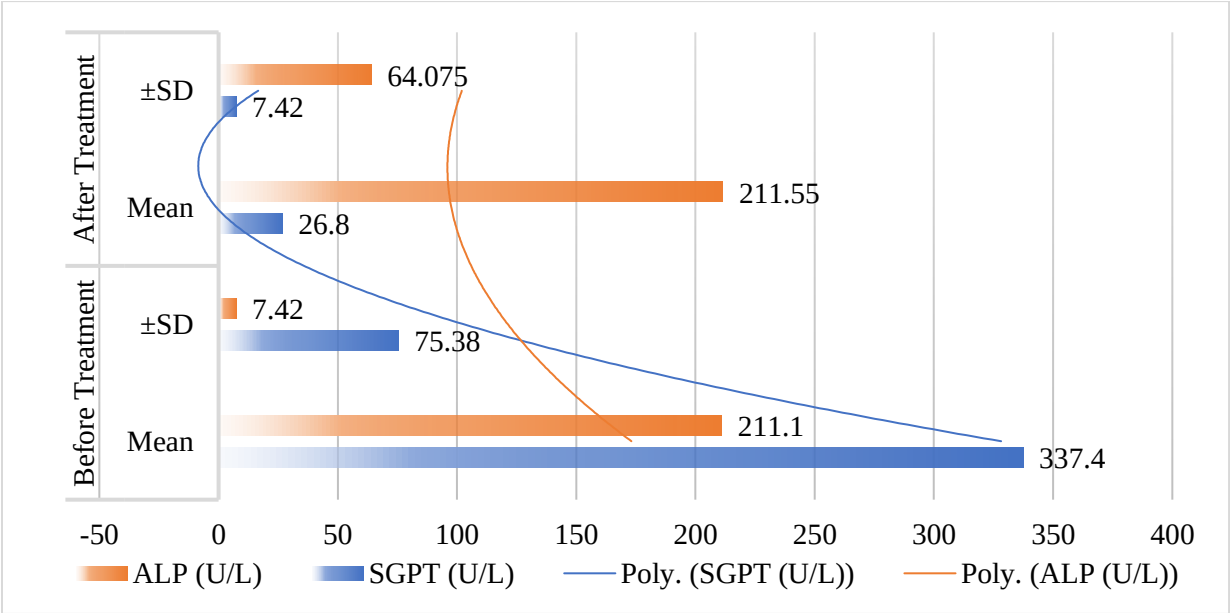


Table – II: SGPT and ALP Values Before and After Treatment

Serums	Before Treatment		After Treatment	
	Mean	**±SD**	**Mean**	**±SD**
SGPT (U/L)	337.4	75.38	26.8	7.42
ALP (U/L)	211.1	7.42	211.55	64.075



The average ALP values of patients before chemotherapy were (211.10 ± 65.194) U/I and after chemotherapy was (211.55 ± 64.075) U/I. Comparative to personal values, very small dissimilarity was indicated by outcomes in case of only a few patients. Before and after chemotherapy, the dissimilarity between the levels of ALP was not valuable (P > 0.05). The STB range before treatment

were (0.73 ± 1.38) mg/dl and after treatment were (0.78 – 1.12) mg/dl. Dissimilarity in the personal levels according to results were negligible. The average values of STB before treatment with alpha-interferon were (0.939 ± 0.076) mg/dl and after treatment were (0.924 ± 0.089) mg/dl. No valuable dissimilarity was indicated through statistical assessment by T-Test ($P > 0.05$).

Less dissimilarity was indicated by the personal values of SDB. Before management, this dissimilarity changes from 0.33 to 0.76 mg/dl in patients. While after chemotherapy for six months, this change was from 0.35 – 0.77 mg/dl. Before management, the average SDB values were (0.503 ± 1.17) mg/dl; whereas, after management, these values were (0.494 ± 1.28) mg/dl. No valuable dissimilarity was shown by the comparison of SDB values by T-Test ($P > 0.05$).

Before and after management with alpha-interferon, the average values of SIB were (0.436 ± 0.08) and (0.422 ± 0.073) mg/dl respectively. At personal levels, very small dissimilarity was observed. Before and after chemotherapy, no valuable dissimilarity between SIB values was indicated by T-Test ($P > 0.05$).

The frequency of liver cells chemotherapy damage is given by the range of increased levels of SGPT (262/422 U/I) in chronic hepatitis C patients before treatment. But, there noticeda decrease in the level of SGPT in these patients after treatment with alpha-interferon. At the end of six months chemotherapy, these levels fell to normal (16 – 47 U/I). Before management, the average values of SGPT were (337.40 ± 75.38) and after treatment, these levels were (26.8 ± 7.42) U/I. The dissimilarity in the levels of SGPT levels by T-Test was very valuable ($P < 0.001$).

DISCUSSION:

Excretory working of the liver remains within normal range in the beginning stage of chronic hepatitis. It is due to the fact that necrosis or fibrosis or liver damage are not dispersed [2]. Before and after management with alpha-interferon, the levels of serum total bilirubin remained normal in our study. The levels of serum direct bilirubin and serum indirect bilirubin also remained normal. Similarly, the levels of ALP in chronic hepatitis C patients were also normal. Before the establishment of cirrhosis of liver cancer in chronic hepatitis C, the pressure was normal in the biliary canaliculi. ALP is found in hepatocytes, attached to hepatocyte membrane. When there is a blockage in the biliary passage, the ALP in the liver disorder is elevated just then [3]. No blockage was observed in our patients and the patients in our study were in the beginning stage of chronic hepatitis. So, the level of ALP remained within normal range. SGPT is a significant measure of liver cells damage [10]. The level of SGPT in healthy people remains normal (9 – 40) U/I. Whereas, its occurrence is elevated due to viral infection in chronic hepatitis C. Higher dose of IFN (SMU, thrice weekly) were provided to patients in previous studies. Moreover, a supportive reaction was imagined on the management of normal ALT values [11]. The SR (Sustained Response) rates ranged from 82% and biochemical end of therapy response (ETR) rates ranged from (30 – 50) percent when IFN was used at a dose level of 3 million units, 3 times weekly for a period of 6 months. The virologic SR rates varied from 27% to 35% [12]. It was explained by Hoofnagle et al [3] that when interferon alpha was provided to patients with non-A, Non-B hepatitis was able to normalize the levels of an enzyme of the liver in a considerable number of patients.

CONCLUSION:

It is concluded from the results that working of the liver is enhanced by alpha-interferon. It was also indicated that under the environment of Pakistan, chronic Hepatitis C is effectively managed alpha-interferon. In order to prevent any incidence of relapses, doses of alpha-interferon should be taken continuously and chemotherapy should not be stopped.

REFERENCES:

1. Tietz N.W. Determination of alkaline phosphatase by kinetic of IFCC. Textbook of clinical chemistry, 2nd edition, W.B Saunders Company, Philadelphia 1994; 2202.
2. Ulrich PP, Romeo J.M Lane P.K., Keely l., Daniel L.T. Vyas G.N. Determination Semi-quantitation and variation in HCV sequence amplified from the plasma of blood donors with elevated ALT.J. Clin. Invest 1990; 86:1609-1614.
3. Nussbaum J. Spol B. Nalpas B. Landais P. Berthelot P. Brecht. Hepatitis 'C' virus type 16 (ll) infection in France and Italy. Ann. Intern Med. 1995; 122: 161-168.
4. Farrel, GC Therapy of hepatitis 'C' á-interferon-NL-trials. Haematology. 1997; 26 (965-1005).
5. Hoofnagle, JH, Mullen K.D Jones D.B. Treatment of chronic Non-A, Non-B hepatitis with recombinant human alpha interferon N. Engl. J. Med. 1986; 315: 1575-1578.
6. Jendrassik L. Grof R. Photometric determination of total bilirubin in serum or plasma. Biol. Chem. 1938. 2. 297, 8.

7. Schellong G, Wende U. Photometric determination of direct bilirubin in serum or plasma. Arch. Kinderneilk. 1960; 162, 126.
8. Lorentz K. Libeek G. Rochce G. Siekman L.
9. Determination GPT activity in serum or plasma by VV test according to IFCC. DG KG Kcinischi chemic mitten 1993; 24:101-105.
10. Baron DV, Wicher JT, Lee KE. A new short book of chemical pathology, 5th ed. Butter and Tanner Ltd., London. 1993 Pp. 174-175.
11. Finlayson NDC, Hayes PC, Simpson KJ. Disease of the liver and biliary system. In divisions principles and practice of medicine. 18th ed. Urchin living stone. 1999. P.683-736.
12. William F., Balistreri MO Robert R. Liver. functions: In Fundamentals of clinical chemistry, 4th ed. W.B. Sounders Company 1996; P 563.
13. Edwards CRW Bouchier lAD. Principles and practice of Medicine 16th ed. Funded by the British Government, printed in Hongkong 1991. 1SBN 0443 04482 1.
14. Tufail Muhammad, Shaukat A, Chaudhry A Anwar PM. Amin K. Hepatitis B and C virus and Nephrotic syndrome. The professional 2000; 07 (02) 210-211.