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Research Article

A RESEARCH STUDY ON THE IMPACT OF ENTECAVIR ON CIRRHOSIS LINKED WITH HEPATITIS B VIRUS

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Abstract:

Objective: The main purpose of this case work is to know about the effectiveness of entecavir on the cirrhosis related to HBV.

Methodology: Total 102 patients of HBV related cirrhosis separated into two groups of equal amount of patients (n: 51 in each group of cases & controls). Conventional therapy provided to every member of each group, at the same time, the treatment group got entecavir for the treatment of virus.

Results: We found a significant comparison of the function of liver among the members of treatment and control group at weeks four, eight & twelve after the treatment against virus.

Conclusions: The case study concluded that entecavir is very effectual in the treatment of HBV related Cirrhosis but there is need of evaluation for its treatment & resistance.

Keywords: Cirrhosis, HBV, methodology, effectual, entecavir, treatment, liver, resistance, significant, conventional.

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INTRODUCTION:

The virus of hepatitis B is very frequent reason of cirrhosis in many countries especially in China. Research work displayed that antiviral treatment can meaningfully develop HBV related cirrhosis [1]. Research has proved that interferon is not a better treatment choice against cirrhosis, the analogues of nucleoside for HBV has gotten more consideration. The use of entecavir is effectual in the treatment of HBV [2]. In this case work, we used the entecavir for the treatment of 51 HBV related cirrhosis patients to investigate the effectiveness of this drug.

METHODOLOGY:

This research work carried out after the permission of the ethical committee of the concerning hospital. Total 102 patients getting treatment of HBV infection with cirrhosis in the hospital were the part of this research work. This research work started in September 2016 & lasted up to December 2018. The patients division carried out into two equal groups with 51 participants randomly. The group of treatment consisted 23 female patients and 28 male patients with a range of age 23-66 years in which 30 participants found with HbeAg positive & 27 participants found with HBVDNA positive. Thirty one male & 20 females were available in the group of control with arrange of age of 25-67 in which twenty three patients found with HbeAg positive & 28 patients appeared with HBVDNA positive. We found no significant disparity in the age of patient, sex of patient, illness condition & positive HbeAg rates among two groups.

All the participants provided with the nutrition provision, fortification of liver, Anti-fibrosis & symptomatic therapy. The participants of both groups

received through veins; 10.0% solution of glucose & matrine, 10.0% solution of glucose & compound di-isopropyl amine di-chloro acetate & 10.0% solution of glucose & hepatocyte the factor of promoting the growth, the group of treatment received .50 mg per day entecavir orally [3]. The examination of the function of the liver & LF in both groups carried out before the start of therapy and at weeks four, eight & twelve after the therapy. AST (aspartate Amino-transferase, ALT (Alanine amino transferase), ALB (albumin), TBIL (total bilirubin) of the indexes of the function of liver & PC 3 (procollagen 3), LN (Laminin), HA (Hyaluronidase) of indexes of LF among the both groups compared.

SPSS V.16 was in use for the examination of the information. The examination of the comparable information among two group carried out with the help of T-test. For multiple comparisons, we used the variance analysis. P value of less than .05 considered as significant.

RESULTS:

Indexes of the liver function: We found no significant disparity in the function of liver as described in Table-1 among the both groups of study before the start of treatment. In the group of treatment, the disparity before & after the therapy was of much importance accordingly at week four, eight & twelve all P values less than 0.01. In the meantime, there was not much significant disparity after & before treatment in the group of healthy control until twelve week. Significant disparity in the function of liver of 2 groups were available at week four, eight & twelve after the therapy. We found no significance disparity in the group of treatment after therapy.

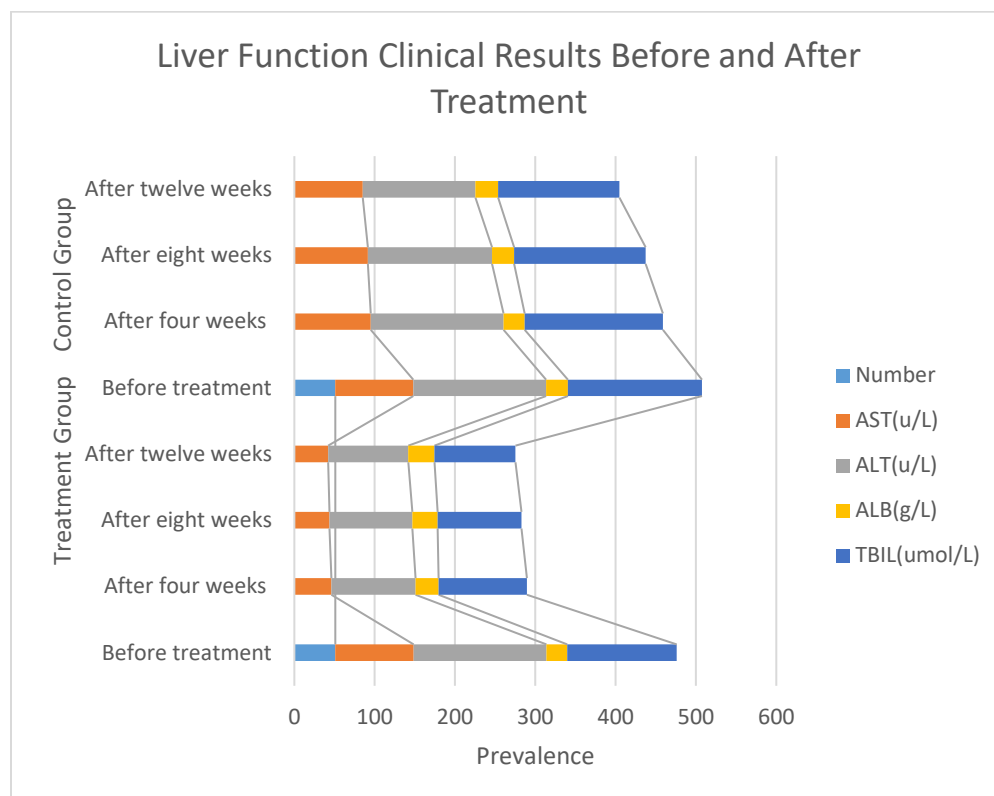
Table-I: Liver function clinical results before and after treatment

Groups		AST(u/L)	ALT(u/L)	ALB(g/L)	TBIL(umol/L)
Treatment group (n=51)	Before treatment	97.50±49.90	165.30±13.40	26.0±8.30	136.10±16.20
	After four weeks	46.10±18.90a	104.60±17.90a	29.0±5.40a	109.80±11.80a
	After eight weeks	43.90±16.80a	103.20±0.80a	31.30±4.90a	104.30±2.50a
	After twelve weeks	42.10±11.90a	99.80±6.70a	32.60±5.80a	100.80±6.10a
Control group (n=51)	Before treatment	97.30±36.90	165.20±22.70	27.10±6.0	166.90±39.0
	After four weeks	95.20±18.20c	165.10±26.90c	26.50±3.20c	172.0±23.80c
	After eight weeks	91.70±27.20c	154.60±24.20c	27.20±4.60c	163.80±29.0c
	After twelve weeks	85.20±18.30bc	140.20±24.80bc	28.20±5.80bc	151.0±16.80bc

a: Compared with treatment group before treatment, $P < 0.01$.

b: Compared with control group before treatment, $P < 0.05$.

c: Compared with corresponding week in treatment group, $P < 0.01$.



Index of liver fibrosis: We found no significant disparity in the LF as displayed in Table-2 among treatment and control groups before the start of the treatment. In the group of treatment, the disparity before & after therapy was available as significant correspondingly at week four, eight & twelve, all P

values less than 0.01. At the meantime, there was no significant disparity in the start and end of the therapy in the group of controls was available until end of the 12 week in LF. Besides this, not significant disparity in the group of care was available after the completion of the treatment.

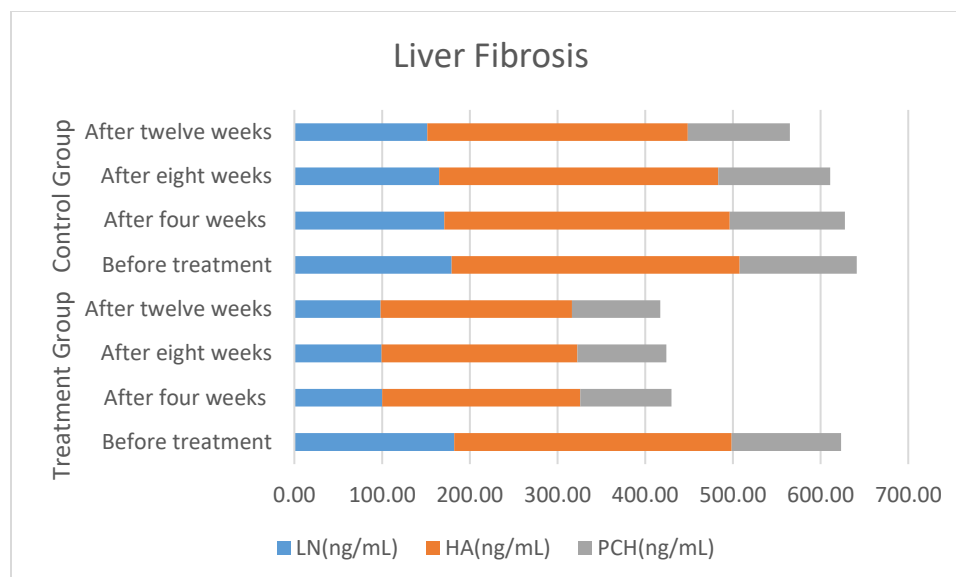
Table-II: Liver fibrosis of both groups before and after treatment.

Groups		LN(ng/mL)	HA(ng/mL)	PCH(ng/mL)
Treatment group (n=51)	Before treatment	182.30±24.80	316.50±26.30	124.60±9.30
	After four weeks	100.30±22.50a	225.60±24.50a	104.10±8.60a
	After eight weeks	99.40±8.90a	223.40±27.50a	101.30±16.10a
	After twelve weeks	98.30±6.40a	218.10±26.10a	100.70±14.90a
Control group (n=51)	Before treatment	179.20±24.90	328.60±22.50	133.60±15.80
	After four weeks	170.80±26.30c	325.70±11.80c	131.20±12.10c
	After eight weeks	165.10±26.90c	318.20±23.10c	127.80±13.50c
	After twelve weeks	151.60±16.40bc	297.10±30.50bc	116.20±14.70bc

a: Compared with treatment group before treatment, $P < 0.01$.

b: Compared with control group before treatment, $P < 0.01$.

c: Compared with corresponding week in treatment group, $P < 0.01$



DISCUSSION:

HBV linked cirrhosis has always an association with a lot of problems as ascites, jaundice & hepatic Encephalopathy, even it leads to primary liver carcinoma [4, 5]. The rate of survival for one year for the patients of HBV linked cirrhosis was from 55.0% to 70.0% & survival rate for 5 years was from 14.0% to 35.0% [6, 7]. The objective of the therapy for the patients of this disease is to overpower the duplication of the hepatitis B virus, keeping the HBeAg being only - & prevention in the damage of the function of liver, therefore the treatment against the hepatitis B virus performs very vital part in the treatment of the cirrhosis. The analogues of nucleoside long duration treatment against virus can effectually restricts the problems created by cirrhosis, the liver of cancer related to hepatitis B virus, and decrease the mortality of the patients suffering from the infection of HBV [8].

The amount of the patients listed for the transplantation of the liver due to hepatitis B virus cirrhosis in USA has decreased meaningfully [9]. One of the great performer & secure nucleoside analogue for the Infection of chronic HBV is entecavir [10, 11]. About 1.20% resistance to virus was available in the patients who got treatment with the utilization of entecavir for complete five years [12]. Shim JH [13] concluded in his case study that the total rate of survival of the patients suffering from hepatitis B virus linked cirrhosis who got the hepatic transplantation was 87.10% after complete one year therapy with the utilization of entecavir. In comparison with the normal cure in this research work, typical therapy in collaboration with the entecavir for the treatment of the patients suffering from the infection of HBV linked cirrhosis had a better impact on the function of

the liver & fibrosis of liver, but we were unable to find any important advancement at week four, eight and twelve.

Further study of the The treatment with the help of Entecavir like a course is the requirement. In comparison with the other analogues of the nucleoside for the treatment of the patients suffering from the infection of hepatitis B virus related cirrhosis, there is a clear benefit of entecavir on others and it signified as a valuable initial treatment choice for the cure of the patients suffering from HBV infection [14], but we found the resistance in the people who were getting the treatment of entecavir from a long period of time. Symphysial treatment of various types of the drugs against virus have the ability to decrease resistance to infection due to HBV (15). The protection of treatment for a long period of time with entecavir is not ignorable as its carcinogenicity, there is a requirement of future research work for it.

CONCLUSION:

In this research work, we concluded that the advancement in the function of liver of the patients suffering from the infection of HBV linked cirrhosis was not visible when treated with the help of entecavir, but entecavir have a better impact in the prevention of the decline of the function of liver. The follow up duration of the research work was very less, so the impacts of entecavir on the patients suffering from infection of HBV related cirrhosis at the time of final part of the treatment was indeterminate, this in turn excluded this case work of its hindrance, safety & therapy course.

Further research works in the future should be of greater period of follow ups which will provide a

better view to discover the hindrance of entecavir and treatment course with this drug, and impact of the amalgamation antiviral treatment for the patients suffering from the infection of hepatitis B virus linked cirrhosis. The patients should undergo further treatment. The therapy with the help of entecavir on patients suffering from infection of hepatitis B virus linked cirrhosis have the ability to enhance the function of liver & postponement in the LF effectiveness with the help of anti-HBV.

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