

Treatment Under One Roof- A Successful Concept

Malhotra P*, Malhotra V, Sanwariya Y, Anamika, Sharma S, Sikander, Kochar S, Rani B, Kumari M, Arora K, Arora S, Kumar N, Kumar S

Department of Medical Gastroenterology and Obstetrics & Gynecology, PGIMS, Rohtak, Haryana, India

*Corresponding author:

Parveen Malhotra,
Department of Medical Gastroenterology and Obstetrics
& Gynecology, PGIMS, 128/19, Civil Hospital Road,
Rohtak, Haryana, 124001, India

Received: 02 Jan 2024

Accepted: 17 Jan 2024

Published: 25 Jan 2024

J Short Name: JJGH

Copyright:

©2024 Malhotra P, This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and build upon your work non-commercially.

Keywords:

Hepatitis B; Hepatitis C; Doctor; Nursing Officer; Pharmacist; Data Operator; Peer view support; Endoscopy technician; Compliance; Myths

Citation:

Malhotra P. Treatment Under One Roof- A Successful Concept. J Gastro Hepato. 2024; V10(7): 1-4

1. Abstract

1.1. Introduction: Hepatitis B and C have become significant health problem in India. Thus, for providing proper & regular treatment to patients, including pregnant females, there is requirement of a dedicated team which should comprise of specialist, including obstetrician, nursing officer, pharmacist, computer data operator, peer view support and endoscopy technician at same place which leads to exceptional and successful treatment outcomes.

1.2. Objective: To provide complete treatment including tests, Fibroscan, endoscopy, drugs and indoor admission under one roof on daily basis and then to analyze its impact on compliance and treatment outcome.

1.3. Methods: This study was conducted at Medical Gastroenterology Department at PGIMS, Rohtak in collaboration with Obstetrics & Gynecology Department. It was a retrospective analysis of data of last five years pertaining to total number of hepatitis B & C patients treated by the team which included Specialist doctors, Nursing officers, Pharmacist, Data operator, Peer View Support and Endoscopic technicians. In five years, duration, 25,000 patients of HCV and 9000 patients of Hepatitis B (HBV) were enrolled and treated.

1.3. Observations & Results: On retrospective analysis of five years, total 9000 confirmed patients of Hepatitis B were enrolled, out of which 7600 were inactive carriers and hence have not been put on treatment till date. The compliance rate of patients on drugs

was 92% and out of them only 3% progressed to cirrhosis or increased viral load or fibrosis. On retrospective analysis of five years, total 15,000 confirmed patients of Hepatitis C were enrolled. Out of them 70% were male, 66% were from rural background and 99% were compliant on drugs. The sustained virological response was achieved in 92% of patients.

1.4. Conclusion: The concept of treatment under one roof is a successful concept which leads to excellent compliance and treatment outcomes.

2. Introduction

Viral hepatitis is a major public health problem globally and mortality is comparable to tuberculosis and higher than caused by Human immunodeficiency virus (HIV) [1]. It is estimated that 325 million people worldwide are living with chronic HBV or HCV infection [2]. In India, hepatitis B surface antigen (HbsAg) positivity ranges from 1.1% to 12.2% and anti-hepatitis C virus (HCV) antibody is estimated to be between 0.09-15%. [3]. In India, approximately 40 million people are chronically infected with Hepatitis B and 6-12 million people with Hepatitis C [4]. India has about 3 million to 9 million persons with active HCV infections [5] in total pool of 71 million people worldwide [6] and proportion of cirrhosis in chronically infected patients is rising and projected to reach 44.9% by 2030 [7]. The availability of multiple pan-genotypic, oral, direct-acting antiviral (DAA) drugs has led to sustained virological response (SVR) rates ex-

ceeding 95% in patients with compensated liver disease [8]. The SVR leads to improvement in HCV-related liver damage, leading to liver fibrosis regression, and a reduction in the incidence of hepatocellular carcinoma (HCC), thereby prolonging overall survival [9-12]. There were no differences in SVR rates when treatment was administered by nurse practitioners, primary care physicians or specialists but wide variability in SVR rates could be due to patient factors, clinic setting, or other hitherto unknown variables [13]. Hepatitis B and C infections have long gestation periods before the disease progresses to advanced stages resulting in liver cirrhosis and liver cancer, resulting in mortality if treatment is not provided in time. The most important step for successful treatment outcome is strict compliance on drugs which further depends on multiple factors like easy availability of tests & medicines under one roof, empathic behavior and humanitarian attitude towards patients by the treating team. There is provision of free tests and treatment for hepatitis B & C under National Viral Hepatitis Control Program. India being a developing country faces huge problem of illiteracy, poor socio-economic status and non-accessibility of proper health care services which leads to flourishing practices of quackery i.e. treatment by unqualified health care workers who are significantly responsible for percolation of multiple myths associated with these diseases and its treatment in society. Thus, for providing proper & regular treatment to patients, including pregnant females, there is requirement of a dedicated team which comprises of specialist, including obstetrician, nursing officer, pharmacist, computer data operator, peer view support and endoscopy technician at same place which leads to exceptional and successful treatment outcomes.

3. Methods

This study was conducted at Medical Gastroenterology Department at PGIMS, Rohtak in collaboration with Obstetrics & Gynecology Department. It was a retrospective five-year analysis (2018-2023) pertaining to patients whose samples were sent from various outdoor patient departments & Indoor wards and were found positive for HbsAg or Anti HCV antibody on Enzyme linked immunosorbent assay (ELISA) test. Five milliliter of blood was collected and serum was separated which was divided into two aliquots; one was used for HbsAg and the other was used for anti-HCV antibody for ELISA testing. The patients who were confirmed to be having HBV or HCV infection were enrolled in the study. All patients, in addition to above

tests underwent Fibroscan, endoscopy wherever indicated and routine tests including complete hemogram, liver & renal function test, thyroid & lipid profile, blood sugar and ultrasonogram abdomen. The treating team included specialist doctors including obstetrician, nursing officer, pharmacist, computer data operator, peer view support and endoscopy technician. The doctors trained the remaining team members about basic knowledge of hepatitis B & C, including tests, treatment and emotional bonding with the patient. All the team members were present on same floor on daily basis. The patient was seen first by specialist doctors, Fibroscan was done by Nursing officers, detailed record of patient was entered digitally by computer data operator, drugs were dispensed by pharmacist, detailed counselling was done by peer view support, endoscopy was assisted by endoscopy technician and Nursing officers helped in management of patient during stay in ward. The role of everyone was defined but everybody knew about other's work also and performed the same in absence of other.

4. Observations

On retrospective analysis of five years, total 9000 confirmed patients of Hepatitis B were enrolled, out of which 7600 were inactive carriers and hence have not been put on treatment till date. Out of remaining 1400, one thousand were chronic hepatitis B in active phase or cirrhosis & 400 were of acute severe hepatitis B who required treatment as per scientific rationale. The compliance rate of patients on drugs was 92% and out of them only 3% progressed to cirrhosis or increased viral load or fibrosis, thus requiring dual antiviral therapy or acute severe hepatitis B patients who progressed into chronic phase. Thus making overall successful outcome to be 89% but if 8% non-complaint patients are excluded, then successful outcome reaches 97% which is exceptionally high.

On retrospective analysis of five years, total 15,000 confirmed patients of Hepatitis C were enrolled. Out of them 70% were male, 66% were from rural background and 99% were compliant on drugs. The sustained virological response was achieved in 92% of patients which included 70% non-cirrhotic and 30% cirrhotic. The non-cirrhotic were treated by combination of Sofosbuvir 400 mg & Dacatasvir 60 mg combination whereas cirrhotic were treated by Sofosbuvir 400 mg & Velpatasvir 100 mg combination therapy (Table 1 and 2).

Table 1: Showing Distribution Parameters of Chronic Hepatitis B Patients

Total Number of Patients on Treatment	Males	Females	Rural Background	Urban Background	Compliant Patients	Successful Outcome in Patients
1400	924	476	966	434	1288	100
	-66%	-34%	-69%	-31%	-92%	-89%

Table 2: Showing Parameters of Chronic Hepatitis C Patients

Total Number of Patients on Treatment	Males	Females	Rural Background	Urban Background	Compliant Patients	Successful Outcome in Patients
1400	924	476	966	434	1288	100
	-66%	-34%	-69%	-31%	-92%	-89%

5. Discussion

The concept of treatment under one roof includes specialist doctors, nursing officers, pharmacist, computer data operator, peer view support, endoscopy technician. The role of each is well defined and is supported by each other. The decision for line of treatment is decided by the specialist doctor. The nursing officer were trained for analyzing patients of hepatitis B & C, performing Fibrosan, assisting in endoscopy & colonoscopy and management of indoor ward patients. The pharmacist distributed drugs and clearly explained about timing of taking drugs, side effects, drug interactions and myths associated with treatment. The computer data operator registered patient, upload all the reports & drugs dispensed. It helped in clear assessment of load of patients, identifying hot spots of disease and good compliance on drugs. The peer view support explained in detail about hepatitis B & C, risk factors of disease, precautions for family members for preventing transmission, dietary role, various myths associated with disease, drugs and treatment. The endoscopy technicians helped not only in performing endoscopy and Fibrosan but also had been given basic knowledge about hepatitis including B & C. The main reason behind this concept was interaction of patient with multiple members of team at different point of time. Majority of patients were apprehensive about disease and its course and frequently asked same questions to different team member during their interaction with them. Hence, it becomes very important that all are able to answer properly and rightly to queries raised by patient which leads to allaying of anxiety and infusing of confidence, so that good compliance and optimum treatment outcome is achieved. In the present study the compliance rate of 92 % & successful treatment outcome in 89% was achieved in hepatitis B patients which can be explained on basis of effective drugs with lesser side effects, availability of free treatment on daily basis, issuing of three months of therapy in one go, proper counselling of patients in starting and throughout the course of treatment by the treating team. The reason

of non-complaint hepatitis B patients was predominantly prolonged course of treatment for years together, may be life long as in cirrhotic and few left treatments in between due to side effects of the drug. The huge compliance of 99% for HCV patients & SVR of 92 % was due to regular availability of free drugs on daily basis and that too with least side effects. The limited number of non-complaint patients were in older age group and cirrhotic, thus non-compliance was attributable to other adverse clinical features associated with stage of disease, poor tolerability and other ailments in older age group. Moreover, any patient who developed any kind of side effects and required admission, then it was done on priority on daily basis and there was no charge for any kind of treatment. As a well-planned policy, patients were given consultation and treatment on daily basis without any waiting period. The other important decision taken was providing three-month course of treatment together to every patient and then to remain connected telephonically with patient by treating team for making sure that patients are taking drugs regularly. The appointment of dedicated team which included Specialist Doctors, Nursing officers, Peer view support, Pharmacist, Computer Data Operator and Endoscopy technicians played a vital role in achieving this good compliance rate. The concept was to provide all facility under one roof i.e. all six of them were available under one roof on daily basis. The first interaction was with qualified consultant who analysed the patient clinically and all tests including viral load, routine tests, ultra sonogram, Fibrosan and Endoscopy, if indicated was done on the same day. The peer view support used to do psychological and family counselling and pharmacist explained the patient and relatives about the dosages schedule, interaction and side effects of drugs. This team effort led to good social bonding with the patients who developed full faith in the treating team and telephonically connectivity during course of treatment was game changer because all apprehensions and fears were allayed round the clock during treatment. This familial bonding led to overcome the hurdle of illiteracy and rural background in majority of patients who were treated for

Marshall MC, Herrera JL. Lack of patient compliance in real-world practice negatively affects sustained viral response rates to direct acting agent therapy for hepatitis C. *Dig Dis Sci.* 2018; 63: 3228–32.

Chronic hepatitis B & C.

6. Conclusion

Hepatitis B and C have become significant health problem in India, especially in hotspots like Haryana, thus requiring more dedicated efforts for curbing the menace of these deadly diseases. Hepatitis B in majority of patients require prolonged treatment, and multiple myths are associated with both HBV & HCV, thus necessitating need of proper and regular counselling of patients, uninterrupted supply of free drugs and good bonding between treating team and patients. All these efforts require a complete dedicated team under one roof, so that there is no missing and lead to exceptional compliance rate and treatment outcomes.

References

1. Guidelines for the prevention, care and treatment of persons with chronic hepatitis B infection. WHO 2015.
2. Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: recommendations for a public health approach – 2nd ed. WHO, 2016.
3. Guidelines for the screening care and treatment of persons with chronic hepatitis C infection. Updated version, April 2016, WHO.
4. WHO Global Disease estimates 2016; WHO 2016.
5. Central Bureau of Health Intelligence, Ministry of Health and Family Welfare. National Health Profile. New Delhi: s.n., 2016.
6. Centers for Disease Control and Prevention. Surveillance of Viral Hepatitis – United States, 2016.
7. George SL, Bacon BR, Brunt EM, Mihindukulasuriya KL, Hoffmann J, Bisceglie AMD. Clinical, virologic, histologic, and biochemical outcomes after successful HCV therapy: a 5-year follow-up of 150 patients. *Hepatology.* 2009; 49: 729-38.
8. Morgan TR, Ghany MG, Kim HY, Snow KK, Shiffman ML, Santo JLD, et al. Outcome of sustained virological responders with histologically advanced chronic hepatitis C. *Hepatology.* 2010; 52: 833-44.
9. Singal AG, Volk ML, Jensen D, Bisceglie AMD, Schoenfeld PS. A sustained viral response is associated with reduced liver-related morbidity and mortality in patients with hepatitis C virus. *Clin Gastroenterol Hepatol.* 2010; 8: 280-8.
10. Morgan RL, Baack B, Smith BD, Yartel A, Pitasi M, Falck-Ytter Y. Eradication of hepatitis C virus infection and the development of hepatocellular carcinoma: a meta-analysis of observational studies. *Ann Intern Med.* 2013; 158: 329-37.
11. Calvaruso V, Cabibbo G, Cacciola I, Petta S, Madonia S, Bellia A, et al. Incidence of hepatocellular carcinoma in patients with HCV-associated cirrhosis treated with direct-acting antiviral agents. *Gastroenterology.* 2018; 155: 411–21.
12. Backus LI, Belperio PS, Shahoumian TA, Loomis TP, Mole LA. Real-world effectiveness and predictors of sustained virological response with all-oral therapy in 21,242 hepatitis C genotype1 patients. *Antivir Ther.* 2017; 22: 481-93.
- 13.