International Journal of Primary and Critical Care, 2023,
Vol. 01, Iss. 01, S. No. 006, pp. 1-6

Survey on Occurrence of Hepatitis: A Case Study

Shivam Shekhar
Amity Institute of Pharmacy Lucknow, Amity University Uttar Pradesh, India.
shivam.shekhar1@s.amity.edu

Abstract

Background: *The hepatitis B virus (HBV) may reactivate. The patients who were found in accordance with Egyptian guidelines from February 2019 to December 2019. On the other hand, it was seen that those patients had just contracted HBV.* ***Results:*** *Of all participants, 51% of them were women and 49% of them were men above the age of 18. The results of four weeks, and the conclusion of the 12-week treatment period all showed improvement, with the exception of serum albumin, and this difference was highly statistically significant. 34 individuals with Co-infections with and results l were present at the start of the investigation. Reactivation was found in 6 individuals after 1 month of DAA treatment.* ***Conclusion:*** *In order to identify new infection or the reactivation of a preexisting infection during or after DAA medication, screening for HBV infection is necessary.*

Keywords

Reactivation of HBV, DAA treatment, and chronic HCV infection

*Corresponding Author	How to Cite this Article	To browse
Shivam Shekhar, Amity Institute of Pharmacy Lucknow, Amity University Uttar Pradesh, India.	Shekhar S. Survey on Occurrence of Hepatitis: A Case Study. Int. J. Ayurveda Herbal Res. 2023;1(1):1-6. DOI: https://doi.org/10.54060/pcc.2023.6	

Received	Accepted	Online First	Published
2023-03-03	2023-05-05	2023-05-05	2023-09-30

Funding	Ethical Approval
Nil	Nil

1. Introduction

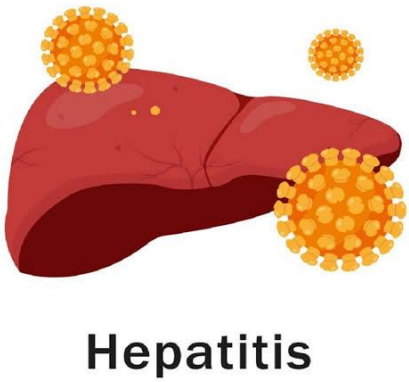

Figure 1. Hepatitis

Liver inflammation is hepatitis. Inflammation, or swelling, happens when biological tissues are damaged or ill. Your liver might get damaged. Only acute infections are caused by some forms of hepatitis. Acute and chronic infections can also be brought on by other kinds and liver transplantation. It is fairly unusual for patients to test positive..

This is particularly true for those that are at high risk of starting off with baseline HBSAg carriage, including intravenous drug users. be antigen plant, people with a positive HIV test, baseline, and serum HBV. Hepatitis B is a liver illness that can be fatal and is brought on by the hepatitis B virus (HBV). therapy, the end of therapy, the potential for persistent infection, and the high treatment costs all contribute to this serious global health issue. The danger of liver cancer and cirrhosis mortality was disclosed to every patient.

2. Study Design

Between February 2019 and December 2019, we enrolled 200 patients in a prospective observational study. These individuals had tested positive for chronic hepatitis C (confirmed by the presence of both HCV antibodies and HCV RNA) and were deemed suitable candidates for DAA therapy treatment, as per the guidelines outlined in Egypt. They were systematically evaluated therapy using a standardised clinical and virological assay. Assessments are performed on all patients, and they include complete blood counts, liver profiles, aspartate (AS1), alanine amino transferase (ALI), bilirubin, albumin, creatinine, and prothrombin time. together with hepatic transient graphs by scan for all subjects, and abdominal ultrasonography US. A liver biopsy was performed on some individuals.

HBsAg present for 6 months indicates chronic hepatitis B (CHB).

- The amount of HBV DNA in serum might range from zero to several billion IU/ml.
- Distinguishing between HBeAg positive and negative. HBeAg often has levels of HBV.. Lower levels and positive CHB are frequently observed in HBeAg–negative CHB.
- Elevated or normal values.
- The results of the liver biopsy revealed chronic hepatitis with varying necrointlammation and/or fibrosis.

3. Statistical Analysis

Data had been checked. the researcher's coding. To compare the frequencies among the groups, the chi-square test was used as a measure of significance. for an ongoing variable. An independent t-test evaluation was performed. compare the means of normally distributed data.

Table 1. Comparison between HCV RNA PCR results in the studied patients

N = 200		At the start of treatment		After 1 month of treatment		At the end of treatment		*P* - value
HCV RNA PCR	**Negative**	0	0%	190	95 %	196	98%	**P1 < 0.001 HS**
	Positive	200	100 %	10	5%	4	2%	**P2 = 0.045** **P3 < 0.001 HS**

4. P-value for Probability

P-values beneath 0.05 were deemed significant.
A P-value of 0.001 or less was regarded as very significant.
P-values over 0.05 were deemed to be insignificant.

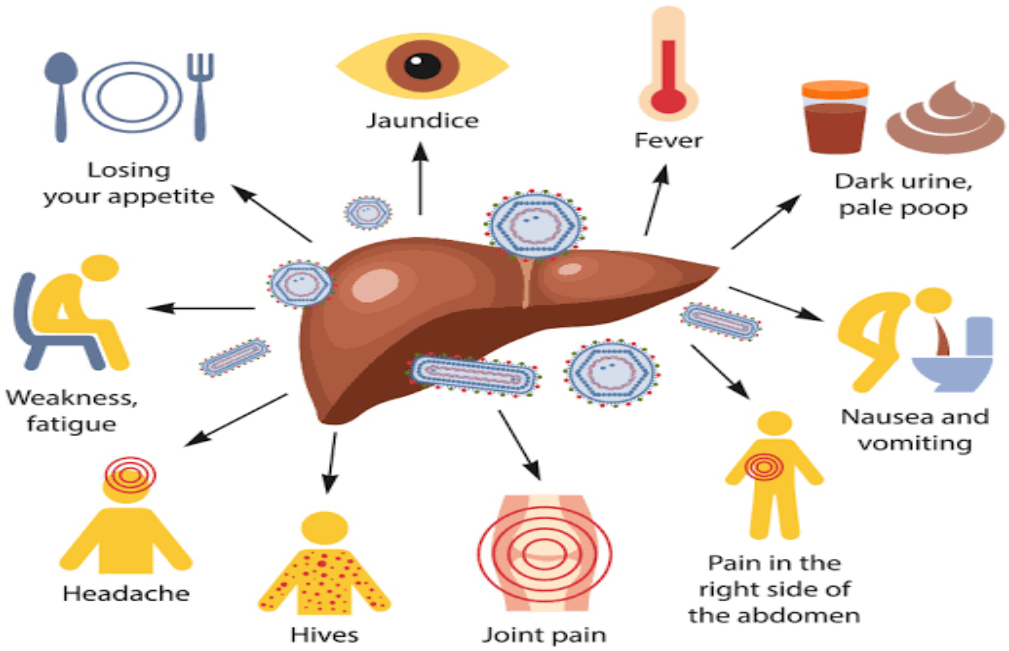

Figure 2. Symptoms of Hepatitis B

5. Results

55.5% of the population was older over 50, with 29.5% being between 40 and 50. Participants were split 49/51 between men and women. Since all patients tested positive for both HCV RNA and HCV antibodies, they met the eligibility criteria for inclusion in the research. We conducted HCV RNA PCR tests at the outset, at the end of four weeks, and at the conclusion of 12 weeks for each subject, as detailed in Table 1. The results of the quantitative assessments carried out at these time points did not exhibit statistically significant changes (with a p-value greater than 0.05), as outlined in Table 2.

All patients' laboratory and serological examinations following a month of therapy (DAAs) urned negative in all other patients.

Only 4 (2%) people had HCV PCR findings that remained positive after finishing DAA therapy. Improvements in liver function were also seen. During the duration of the experiment, 57 people exhibited fatty infiltration, 28 had cirrhotic changes, and 115 people had normal abdominal ultrasounds.

The fibroscan also remained consistent during the duration of the study.

HBc Ab (IgM) was the only hepatitis B virology indicator to demonstrate a statistically significant change According to the laboratory findings at the start of the investigation, there were were all found to have a positive HBsAg test.

After keeping a close eye on things for three months, we noticed something concerning one patient who had both HCV and HBV infections. What we saw was a reactivation, which means the HBV in their system suddenly started getting more active, with their HBV DNA levels spiking by more than 1000 IU/L compared to where they started. And that's not all – as our investigation continued, we also found out that five more people had recently contracted HBV infections.

Table 2. Showing data at the end of treatment

N = 200	At the start of treatment	After 1 month of treatment	At the end of treatment	p - value
Abdominal ultrasounds				
Normal	115 (57.5 %)	115 (57.5 %)	114 (57 %)	pl 10 NS
Fatty	57 (28.5 %)	57 (28.5 %)	58 (29 %)	p2-0993NS
Cirrhotic	28 (14 %)	28 (14 %)	28 (14 %)	p3 0.993 NS

X^2: chi square test

S:p-value<0.05 is considered significant

HS:p-value<0.001 is considered highly significant

6. Discussion

About 180 million people around the world are dealing with HCV, and Egypt happens to have the highest number of cases. Think of it like this: HCV is a pretty big deal globally. According to a study called ASAL D from back in 2015, it's essential that anyone gearing up for DAA (Direct-Acting Antiviral) treatment for HCV should also get checked for potential HBV co-infection. We're talking about looking out for things like HBsAg, anti-HBs, and anti-HBc in their blood. Before you dive into the world of DAA meds, it's crucial to know your HBV status. If you test positive for HBsAg, that's a sign that HBV might be hanging around. In that case, it's a good idea to check how much HBV DNA you've got floating in your bloodstream. If it turns out you need treatment for HBV because it's active, you might start it either before or at the same time as your HCV therapy. If your HBV DNA levels are on the high side and meet the criteria for treatment, go ahead and start HBV therapy. On the flip side, if your HBV DNA levels are low or nearly undetectable, don't fret. You'll still need some occasional check-ups, usually no more often than once every 4 weeks, just to make sure HBV doesn't decide to make a comeback.

A significant risk factor for acquiring hepatitis while receiving DAA medication was testing positive for HBsAg before treatment. The study had some limitations, including the inability to pinpoint specific data like HBAg level, anti-HBs, and HBV genotype that may have affected HBV reactivation. Additionally, the study excludes the type of DAAs that may contributed.

7. Conclusion

In our research, we thoroughly explored the pivotal importance of conducting an all-encompassing screening for HBV infection as an indispensable prerequisite before initiating DAA (Direct-Acting Antiviral) treatment. Our study highlighted the central role played by this screening process, not only in promptly identifying active HBV infections but also in vigilantly monitoring the possibility of HBV reactivation during or after the administration of DAA therapy. The underlying rationale behind this meticulous screening protocol is rooted in its potential ramifications for the overall effectiveness of DAA treatment. The

identification and management of existing HBV infections prior to the commencement of DAA therapy are crucial to ensuring that patients receive the most pertinent and individually tailored medical interventions. Additionally, the ongoing surveillance for HBV reactivation, both during and after DAA treatment, remains imperative, as the resurgence of active HBV infections can not only pose risks to the patient's health but also imperil the very efficacy of the DAA therapy itself.

By underscoring the imperative need for comprehensive HBV screening, our study sought to furnish healthcare professionals with invaluable insights aimed at optimizing the outcomes of DAA therapy in individuals with concurrent HBV infections. This proactive approach to patient care not only contributes to the well-being of the individual but also aligns with the overarching objective of achieving favorable results in the management of chronic HCV infections, all while adhering to the established healthcare guidelines within the Egyptian context.

Conflict of Interest

Regarding this research, I disclosed no possible conflicts of interest.

Acknowledgements

For funding research, we are grateful to the LIFER Foundation in Boston, Massachusetts, and the Espinosa Hepatitis Fund at Beth Israel Deaconess Medical Centre.

References

1. Kao J-H. Hepatitis C virus infection in Taiwan: Past, present, and future. J Formos Med Assoc [Internet]. 2016;115(2):65–6. Available from: http://dx.doi.org/10.1016/j.jfma.2015.06.012.
2. Abo-Amer YE-E, Abd-Elsalam S, Eldosoky H, ELShenawy AK, Awny S, Elagawy W, et al. Declining prevalence of hepatitis C virus among university students in one of the main governorates in Egypt. Infect Drug Resist [Internet]. 2018;11:2435–41. Available from: http://dx.doi.org/10.2147/idr.s183462
3. Abd-Elsalam S, Badawi R, Elnawasany S, Yousef M, Mansour L, Hawash N, et al. Sofosbuvir, pegylated interferon and ribavirin in treatment of an Egyptian cohort with hepatitis C virus infection in real life clinical practice. Infect Disord Drug Targets [Internet]. 2018;18. Available from: http://dx.doi.org/10.2174/1871526518666180912121835
4. Liu C-H, Liu C-J, Su T-H, Fang Y-J, Yang H-C, Chen P-J, et al. Hepatitis B virus reactivation in patients receiving interferon-free direct-acting antiviral agents for chronic hepatitis C virus infection. Open Forum Infect Dis [Internet]. 2017;4(1). Available from: http://dx.doi.org/10.1093/ofid/ofx028.
5. Programmes STI. Global progress report on HIV, viral hepatitis and sexually transmitted infections, 2021 [Internet]. Who.int. World Health Organization; 2021 [cited 2023 Feb 26]. Available from: https://www.who.int/publications/i/item/9789240027077.
6. Soliman H, Ziada D, Salama M, Hamisa M, Badawi R, Hawash N, et al. Predictors for fibrosis regression in chronic HCV patients after the treatment with DAAS: Results of a real-world cohort study. Endocr Metab Immune Disord Drug Targets [Internet]. 2020;20(1):104–11. Available from: http://dx.doi.org/10.2174/1871530319666190826150344.

7. Hanafy AS, Soliman S, Abd-Elsalam S. Rescue therapy for chronic hepatitis C virus infection after repeated treatment failures: Impact on disease progression and risk of hepatocellular carcinoma. Hepatol Res [Internet]. 2019;49(4):377–84. Available from: http://dx.doi.org/10.1111/hepr.13303.

8. EASL recommendations on treatment of hepatitis C 2016. J Hepatol [Internet]. 2017;66(1):153–94. Available from: http://dx.doi.org/10.1016/j.jhep.2016.09.001

9. Bircher J, Benhamou N, Mcintyre M, Rizzetto J. hepatology textbook published by Oxford. Oxford University Press; 1999.

10. Sherlock S, Dooley J, editors. Diseases of the liver and biliary system [Internet]. Wiley; 2001. Available from: http://dx.doi.org/10.1002/9780470986820.

11. Schiff ER, Sorrels MF, Ec M. Liver diseases according to Schiff. Williams & Wilkins; 2003.

12. Popper H and Schaffner H. The sinusoids' capillarization. Gastroenterology.

13. Desmet VJ, Roskams T. Cirrhosis reversal: a duel between dogma and myth. J Hepatol [Internet]. 2004;40(5):860–7. Available from: http://dx.doi.org/10.1016/j.jhep.2004.03.007

14. Wanless IR, Nakashima E, Sherman M. Regression of human cirrhosis. Arch Pathol Lab Med [Internet]. 2000;124(11):1599–607. Available from: http://dx.doi.org/10.5858/2000-124-1599-rohc.

15. 15 Digestive illnesses in the US: Epidemiology and Impact, Arch Pathol Lab Med Bethesda, MD: 1994; NIDDK.

16. Johnson SE, Sherding RG. Diseases of the liver and biliary tract. In: Saunders Manual of Small Animal Practice. Elsevier; 2006. p. 747–809.