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Original Research Article

A retrospective study of prevalance of hepatitis B and hepatitis C virus infections in hemodialysis patients in teritary care hospital Jamnagar

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ABSTRACT

Introduction: Patients getting upkeep hemodialysis (HD) are at higher gamble for gaining Hepatitis B infection (HBV) and Hepatitis C infection (HCV) diseases than everybody. Thus, we meant to examine the occurrence and predominance of HBV and HCV contamination in the HD populace in a tertiary consideration clinic Jamnagar.

Materials and Methods: All grown-up patients getting support HD (n=1667)were read up for quite some time (2019 and 2020). Testing for Hepatitis B surface antigen (HBsAg) and hostile to HCV antibodies was performed at commencement of dialysis and each 3-6 months from that point. A review was done in view of information of serological testing of all CKD Patients.

Results: The middle period of patients was 60 years and 65% were male.1667 patients were concentrated on in which sero positive for HBV (0.83%) and HCV (hostile to HCV 2.57%). The predominance of HBV+HCV contamination differed broadly between HD focuses from 0% to 65.7% sero-positive patients were more youthful, made some more extended memories on dialysis and more past blood bondings. Imminent subsequent uncovered a rate of sero transformation of 0.35% during 1 year. Span of dialysis, more youthful age, and history of getting HD in one more place were altogether connected with sero-change.

Discussion and Conclusion: Patients on upkeep HD in tertiary consideration medical clinic, Jamnagar have a high frequency and predominance of HCV disease and lower paces of HBV contamination. The elements related with HBV and HCV diseases are exceptionally reminiscent of nosocomial transmission inside HD units. As end, we thus require sufficient improvement in contamination control estimates in Hemodialysis units in order to lessen reliance on blood bondings for the treatment of paleness.

1. Introduction

An estimated 260-350 milions persons in the world are chronically infected with hepatitis B virus. Majority of these people will not experience complications but 15% to 40% of these will have sequelae such as cirrhosis and hepatocellular carcinoma and die prematurely.

The commonness of HBV among dialysis patients in India is accounted for to go between 3.4-43%.[1,2] The occurrence of HBV contamination in dialysis populace has declined the over late many years, generally in view of enhancements in disease control, utilizing single use dialyzer and broad execution of HBV immunization. Despite these preventive measures, flare-ups of contamination keep on happening in dialysis units, and pervasiveness rates remain unsatisfactorily high. For various reasons, dialysis patients are at high gamble to get HBV contamination eg rehashed blood bonding and rehashed fistula needling. They likewise exhibit different infection indications contrasted and sound people and are bound

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to advance to persistent carriage. HBV is exceptionally irresistible contrasted and other blood borne infections. An untreated percutaneous openness to a contaminated source conveys a gamble of seroconversion of up to 30%.[3]

HCV is another persistent viral contamination with worldwide weight of 71 million individuals. Tragically HCV effectively dodges the host safe reaction in 50-90% of intensely contaminated people, accordingly prompting constant disease larger part of cases. Ongoing HCV can likewise prompt cirrhosis of liver and hepato cell carcinoma. The commonness of HCV contamination in the western nations ranges somewhere in the range of 4 and 23.3%.[4]

There is high pervasiveness of HBV and HCV co disease in patients getting maintainance hemodialysis around the world. Risk factors causing blood borne viral disease incorporate ongoing vascular exposure, repeated blood bonding, low resistant status and other nosocomial variables.[5–8]

HBV and HCV contamination likewise causes extrahepatic sign including renal, vascular and hematologic frameworks.

2. Materials and Methods

This retrospective study was done from January year 2019 to December 2020 in the Department of Microbiology at a Tertiary Care Hospital with obtaining approval from the Institute Ethics Committee.

2.1. Inclusion criteria

All patients undergoing maintainance hemodialysis, admitted to medicine Department were included in the study.

2.2. Exclusion criteria

Patients positive for HBsAg or HCV immunizer before HD and patients going through HD interestingly were prohibited from this review.

Patients requiring dialysis for intense renal disappointment were prohibited from this review.

Clinical subtleties including bonding history, transplantation history, inoculation history, and span of HD were gathered. Research center boundaries like soluble phosphatase, alanine transaminase (ALT), and aspartate transferase (AST) were examined.

Tests were tried for HBsAg and HCV antibodies by protein connected immunosorbent measure (ELISA) as indicated by the standard directions of the unit (HEPALISA and HCV Microlisa, J. Mitra and Co. Pvt. Ltd, New Delhi, India) at time period 3 months.

3. Results

Over the period of two years total 1667 patients on maintainance HD were followed and tested for HBsAG and Anti HCV antibody. Out of 1667 patients 14 patients were found to be positive for HBsag who were earlier negative for HBsAG. All these patients were vaccinated for hepatits B.

Patients were found to be positive for HCV over the period of 2 years.

Patient was found to be positive for both HCV and HBsAG.

Out of 1667 patients 65% were males and 35% were females.

Majority of patients belongs to age group 50-60 years.

4. Discussion

Constant renal disillusionment patients getting long stretch hemodialysis are much of the time slant toward blood-borne viral tainting like HBV, HCV, and HIV. In India, definite examinations of HBV and HCV defilements among hemodialysis patients are variable. In a concentrate by Bhaumik P et al.(2012)[9] and Kokane et al (2018)[10] 7.3% and 6% HBV seropositivity was seen on dialysis subordinate patients separately. Kapse et al (2017)[11] showed 10% positive among different fortified patients. In this audit, HBV seropositivity (2.6%) during hemodialysis associates well with the concentrate by Kalantari et al(2014)[12] 1.2%, Malhotra el al (2018)[13] 1.5% and Ibrahim MR et al (2017)[14] (3.2%). In the ongoing survey HCV energy was seen in 1.3% where as in a concentrate by Kosaraju et al (2013)[15] 1.11%, Prakash et al (2013)[16] 3.23 % and Güvenir M et al (2019)[17] 3.6% patients were HCV positive. Kansay S et al (2019)[18] showed 1.02% patients positive for HIV which resembles present audit showing 1.3% HIV energy. The bet of co-sickness is similarly noted among the CKD patients in light of the standard receptiveness to blood from bondings and extracorporeal scattering during hemodialysis. Co-illness of HBV and HCV in our audit was 1.3% that related well with studies coordinated by Bhaumik P et al(2012)[9] 1.2%, Malhotra et al (2018)[13] 0.8% and Khullar et al[4] (2020) 0.67%. Consequently, extreme adherence to general shields, proper upkeep of hemodialysis machines and genuine expulsion of used material (tubing, catheters, and fluid) should be done in the dialysis units to reduce the bet of transmission of HBV and HCV. In this audit there was no HIV seropositivity following hemodialysis procedure which was like assessments done by Ibrahim MR et al (2017)[14] and Saha et al (2001)[19] however focuses by Güvenir M et al[17] (2019) and Kansay S[18] et al (2019) showed 0.7% and 1.02% HIV seropositive individually.[20–24]

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None.

6. Conflicts of Interest

There is no conflict of interest.

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