



SEROPOSITIVITY OF ANTI-HCV IN HEMODIALYSIS PATIENTS AT A TERTIARY CARE CENTER

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ABSTRACT

Background: HCV is a RNA virus of family Flaviviridae, genus Hepacivirus. HCV infection is common in Asian CKD patients. The likelihood of infection is increased in hemodialysis units.

Material & Methods: Blood samples of patients undergoing hemodialysis were screened for anti-HCV antibodies by 4th generation HCV TRI-DOT.

Results: A total of 106 patients undergoing hemodialysis were screened for anti HCV antibodies. Of them 74 were males and 32 were females. Most of the patients undergoing hemodialysis were of age group 40-60 years. Of the total samples 16(15.1%) were reactive for anti-HCV antibodies.

Conclusion: Our study showed a moderate seropositivity to anti-HCV antibodies in hemodialysis patients. Routine screening of hemodialysis patients helps in the early detection of HCV.

KEYWORDS : HCV, CKD, hemodialysis, seropositivity.

INTRODUCTION:

Viral hepatitis is among the most common viral infections encountered in dialysis patients. Hepatitis B vaccination has reduced its prevalence among patients in India.¹ Infections by HCV are extensive throughout the world.² Blood transfusions, body piercing, tattoos and hemodialysis are risk factors for HCV acquisition.³ It has emerged as the predominant cause of viral hepatitis in patients undergoing maintenance hemodialysis.¹ It is single stranded RNA virus of positive polarity.⁴ The annual incidence of HCV infection as detected by anti-HCV antibodies among patients at an Indian HD center has been reported to be as high as 18%.¹ Risk factors associated with HCV infection among hemodialysis patients include history of blood transfusions, the volume of blood transfused and years on dialysis. HCV infections may be a risk factor for progression of CKD.⁵ Data are limited on incidence of HCV infection among hemodialysis patients, hence this study was undertaken to know the seropositivity of anti HCV among patients undergoing hemodialysis at our hospital, to know the sex and age incidence of the cases included in the study.

MATERIAL & METHODS:

This is an observational study conducted in the Department of Microbiology, ASRAM, Eluru. Patients of all age groups and both males and females undergoing hemodialysis between January 2018 and December 2018 in hemodialysis unit of nephrology department at of our center were included in the study.

COLLECTION & PROCESSING OF SAMPLES:

Following standard precautions 5ml of blood was collected by venipuncture into the red top container. Sera separated and screened for anti HCV using HCV TRI-DOT, which is a 4th generation immuodot assay.

RESULTS:

A total of 106 renal failure patients undergoing hemodialysis at our center were included in the study. Our study showed that 74 hemodialysis patients were males, constituting 69.8% of total samples and 32 were females, constituting 30.2% of the total samples. Age wise distribution of samples is shown in the chart1. Majority of hemodialysis patients were of age group 41-60 years. Of the 106 samples tested 16 (15.1%) samples were reactive for anti- HCV antibodies and 90 (84.9%) were non-reactive. Distribution of reactives is shown in the table 1. Our study showed that 10(13.5%) of males and 6(18.8%) of the females tested were reactive.

Chart 1: Age wise distribution of the samples

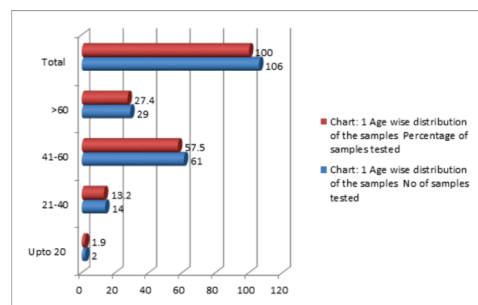


Table 1: Distribution of HCV seropositives among hemodialysis patients

	Males	Females	Total	%
Reactives	10	6	16	15.1
Non- reactives	64	26	90	84.9
Total	74	32	106	100

DISCUSSION:

Hepatitis C virus (HCV) infection, unknown a few decades ago, is now the most common viral infection associated with the care of patients with renal diseases. Of the 106 samples of hemodialysis patients screened for anti-HCV, 74 (69.8%) were males and 32 (30.2%) were females which is similar to the study by Nirmaladevi Somsundaram et al⁶ and Radka T. Komitova et al.⁷ Our study showed majority of hemodialysis patients were of the age group 41-60 years similar to the study by Kasawar Darahasa et al.⁸ 16 (15.1%) samples in our study were reactive for anti-HCV similar to the Kasawar Darahasa et al (16.8%),⁸ where as Karine Saune et al⁹ reported 7.7% seropositives, lower than the one reported by us. Where as Salwa bdour¹⁰ reported 34.6% seropositives, higher than that reported by us. Seropositivity of anti-HCV was more in female hemodialysis patients when compared to males similar to the study conducted by Abdulameer K. Leelo¹¹ and K Samimi-rad et al¹² where as Karina Salvatierra et al¹³ reported more seropositives in males.

CONCLUSION:

HCV increases the morbidity and mortality in hemodialysis patients. HCV antibody tests serves as a preliminary screening test in these patients. This helps to know the prevalence of infection in an area and so measures to reduce its transmission. HCV infection can further be confirmed in seropositive cases by HCV RNA assay which helps as a guide for treating the patients with the highly effective antiviral drugs.

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