



Morbidity Profile of Geriatric Patients on Haemodialysis in a Tertiary Health Care Centre of Western Rajasthan

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ABSTRACT

Background: Geriatric age is associated with many systemic complications including impaired renal function. Diabetes (DM), hypertension (HTN) and infections can further complicate the pre existing renal failure. Control of these co-morbidities can improve morbidity and mortality profile. **Aim and objectives:** To find out the prevalence and distribution of hypertension, diabetes mellitus and infections like hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV) in haemodialysis patients of geriatric age. **Methodology:** All patients of geriatric age group (60 years and above) in haemodialysis unit were subjected to detail history, clinical examination and investigations like blood sugar, glycated haemoglobin (HbA1c), hepatitis B surface antigen (HBsAg), antibody to HCV (anti-HCV), HIV antibody. Prevalence and distribution of these co morbidities were observed. **Results:** Out of 2172 haemodialysis patients 376 (17.3%) patients were of geriatric age group. Out of these 376 geriatric patients, 216 (57.44%) were hypertensive, 84 (22.34%) were diabetic, 104 (27.6 %) were positive for anti-HCV, 61 (16.22%) were positive for HBsAg and 1 (0.3%) was positive for HIV antibody. **Conclusion:** There is considerable burden of co morbidities and infections in haemodialysis patients of geriatric age group. Effort should be made to better control these factors to improve morbidity and mortality profile in geriatric patients.

KEYWORDS

Geriatric, Haemodialysis, Hepatitis B, Hepatitis C, HIV

Introduction

Diabetes, hypertension are prevalent diseases of modern world having dreadful complications including renal impairment especially in geriatric population. Infections of Hepatitis B, Hepatitis C and HIV viruses are also common in present scenario. Renal impairment can occur during pathological course of these infections. These viruses have property of transmission by parenteral route and through blood products. The infections of these viruses are increased in renal impairment patients especially on renal replacement therapy due to need of repeated transfusion of blood products and repeated exposure of parenteral route¹⁻⁷.

These factors can lead to increase morbidity and mortality in haemodialysis patients especially in geriatric population. It is important to know prevalence of these diseases in haemodialysis patients of geriatric age group to assess magnitude of the problem and to make better framework to improve morbidity and mortality profile. Current study was carried out to fulfil this purpose.

Methodology

This cross sectional study was conducted over the period of 4 months (May to August, 2016) in haemodialysis unit of a tertiary care institute of western Rajasthan. The dialysis unit of the institute had total 13 haemodialysis machines. There were three separate machines for HBV, HCV, HIV infected patients (one for each) in separate chambers.

In this study haemodialysis patients of geriatric age group (60 years and above) were included and subjected to detail history and clinical examination. A preformed perfluma was filled with all the necessary information. Blood samples of all enrolled patients were drawn before haemodialysis and sent in institutional laboratory for evaluation of blood sugar, HbsAg by two step immunoassay 'Hepalisa' (J. Mitra & Co. Pvt. Ltd., New Delhi, India), anti HCV antibodies by a fourth generation ELISA (J. Mitra & Co. Pvt. Ltd., New Delhi, India), anti HIV an-

tibody by a fourth generation ELISA (Vironostika HIV uniform II, Biomerieux, Netherland), HbA1c by BIO RAD D10 system based on the principle of High Performance Liquid Chromatography (HPLC). Relevant statistics were applied. Simple tabulation and proportions were calculated.

Results

Total 2172 patients were subjected for haemodialysis in duration of 4 months (May to August, 2016) out of them 376 (17.3%) patients were of geriatric age group with male female ratio 3.4:1. Among 376 geriatric patients 309 individuals were Hindu by religion with male female ratio nearly 3:1 and 67 individuals were Muslims with male female ratio nearly 13:1. Age ranges from 60 to 84 years with mean age of 66.4 years. Most individuals (n=302, 80%) were in 60 to 69 years of age group. (Table 1)

Age groups (years)	Male		Female	
	Hindu	Muslim	Hindu	Muslim
60-69	189	57	51	5
70-79	19	1	18	0
>80	22	3	10	1
Total	230	61	79	6

Table 1: Age, sex, religion wise distribution of study population.

Among 376 geriatric patients it was found that 216 (57.44%) patients were hypertensive, 84 (22.34%) patients were diabetic, 104 (27.6 %) patients were positive for anti-HCV, 61 (16.22%) patients were positive for HBsAg and 1 (0.3%) patient was positive for HIV antibody (Figure 1).

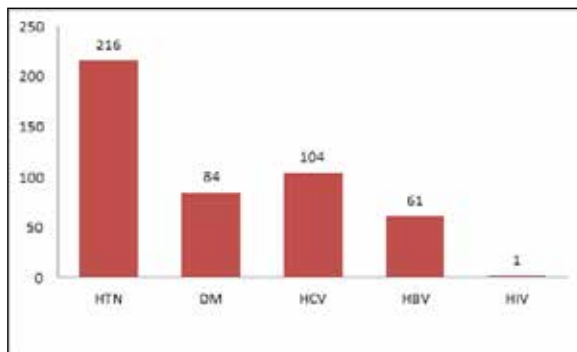


Figure 1: Distribution of Hypertension, Diabetes Mellitus and HCV, HBV, HIV infection in haemodialysis patients of geriatric age group.

Discussion

Among 376 geriatric haemodialysis patients, male female ratio was 3.4:1. In Muslims it is even higher 13:1. There is need of further evaluation of the facts related to less need of haemodialysis in females on genetic, pathological and social basis. As female health is well known neglected aspect of developing countries these results may be reflection of lesser approach of health care facilities by the females. Most individuals (n=302, 80%) were in 60 to 69 years of age group. This may be due to higher mortality rate in higher age groups.

In current study hypertension was most prevalent co morbidity (57.4%) in geriatric haemodialysis patients. Previous study by Szeto et al⁸ also found the same result with even higher prevalence of hypertension (92.7%) in peritoneal dialysis patients of all age group. In our study 22.3% patients were diabetic. In the study Szeto et al⁸ 40.4% patients were diabetic in peritoneal dialysis patients. Better control of these co morbidities can delay onset and progression of renal impairment.

Among haemodialysis patients maximum prevalence of infection was found of HCV infection (27.6%) followed by HBV infection (16.22%) and HIV infection (0.3%). Not many studies have been done previously in haemodialysis patients targeting geriatric population. Several studies were conducted in different parts of India aiming prevalence of infections in haemodialysis patients of all age group like Reddy et al¹(2005, Hyderabad) found 5.9% HCV, 1.4% HBV, 3.7% dual infection. Choudhary A et al² (2005, West Bengal) reported 2.97% HBV infection. Jain P et al³ (2008, Jaipur) found 30% HCV, 11% HBV, 3% dual infection. Saravanan et al⁴ (2009, Chennai) found 26.7% HCV, 44.6% HBV, 5.9% dual infection. Bhaumik P et al⁵ (2012, Tripura) found 12.1 % HCV, 12.1% HBV, 1.2% dual infection. Mittal G et al⁶ (2013, Uttarakhand) found 16.1% HCV, 10.2% HBV and 1.7% HIV infection. Recently Malhotra et al⁷ (2016, Punjab) found 33.5% HCV, 1.5% HBV, 0.8% dual HBV and HCV infection in haemodialysis patients. Most studies support our results that HCV is most prevalent infection in haemodialysis patients followed by HBV and HIV. Variation in values may be due to difference in population structure and method applied. HIV infection was not much prevalent in older age group that may be due to high mortality rate of this disease.

Conclusion-

It is needed to focus more on female health in India. Hypertension is most common co morbidity in geriatric haemodialysis patients followed diabetes mellitus. HCV is most prevalent infection in haemodialysis patients of geriatric age followed by HBV and HIV infection. Effort should be made towards preventive measures to reduce morbidity and mortality in haemodialysis patients of geriatric age group.

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