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TO DETERMINE THE PREVALENCE OF RENAL DISEASES IN HIV/AIDS PATIENTS AT AIMS, DEWAS

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Abstract

Method: HIV positive patients registered in ART centre of AIMS, Dewas. The study will be carried out on HIV positive patients attending ART centre, General medicine OPD, and those admitted in Medicine wards of AIMS, Dewas.

Result: Among 136 patients included in our study, 81 (59.3 %) were males and 55(40.3%) were females. Among those patients with renal dysfunction, 83.1% patients were diagnosed within past 3 years. 15.3% patients had duration of illness 3 to 6 years and only 1.6% patients had duration of illness more than 6 years. The influence of duration of illness on the risk of renal dysfunction was analyzed using One way ANOVA and Tukey pair wise analysis and found to be non significant.

Conclusion: Prevalence of renal dysfunction in our study was 14.3%. Among them, 18 patients were having acute kidney injury and recovered normal renal functions. This study shows that the risk of renal dysfunction is higher in inpatients compared to outpatients. This study shows that the risk of renal dysfunction is higher in advanced stages of the disease.

Keywords: Prevalence, Renal Diseases, HIV & AIDS.

Introduction

Renal disease is now widely recognized as a frequent complication of HIV infection[5]. Renal disorders are encountered at all stages of HIV infection. Patients with HIV are at risk for both acute kidney injury (AKI) and chronic kidney disease (CKD) secondary to medication nephrotoxicity, HIV associated nephropathy (HIVAN)[1-2], immune complex kidney diseases[3] and less commonly, kidney disease in the setting of thrombotic microangiopathy.[4] In addition, HIV positive patients may be at increased risk for kidney disease related to hepatitis B or C virus coinfection[5] and comorbid or treatment related diabetes and hypertension.

Various studies are available regarding the HIV associated renal diseases. But majority of these studies are from western countries.[6] Indian data regarding HIV related renal diseases are sparse despite its huge burden of the disease. There is no such study reported from central India although this region accommodates a bulk of the total HIV patients in India. Larger and longer prospective studies are needed to assess the actual prevalence, risk factors, clinical course, morbidity and mortality of HIV related renal diseases.[7] This will help in the early diagnosis and treatment of such diseases and hence will reduce the morbidity and mortality due to renal diseases in HIV infected patients.

Material & Method

HIV positive patients registered in ART centre of AIMS, Dewas. The study will be carried out on HIV positive patients attending ART centre, General medicine OPD, and those admitted in Medicine wards of AIMS, Dewas from Jan 2019 to Dec 2019.

INCLUSION CRITERIA:

All HIV positive patients aged more than 18 years attending ART centre, General medicine OPD, and those admitted in Medicine wards of AIMS, Dewas.

EXCLUSION CRITERIA:

1. Patients with pre existing chronic kidney diseases not related to HIV (Renal disease due to Diabetes Mellitus, Systemic Hypertension, Collagen vascular diseases etc).
2. Patients in acute/serious illness.
3. Patients having confounding factors for proteinuria (such as heavy exercise, cardiac failure, hyperglycaemia, uncontrolled hypertension and urinary tract infection)
4. Patients with multisystem diseases or malignancies.
5. Pregnant ladies.
6. Patients on nephrotoxic medications.

STATISTICAL METHOD:

Suitable parametric and non parametric tests (Chi square test for non continuous variables).

Results

Table 1: Gender wise distribution of study population (n = 136)

Sex	Not on ART		On ART		Total	
	No.	%	No.	%	No.	%
Male	41	55.6%	40	63.7%	81	59.3%
Female	33	44.4%	22	36.3%	55	40.7%
Total	74	100%	62	100%	136	100%

Among 136 patients included in our study, 81 (59.3 %) were males and 55(40.3%) were females.

Table 2: Relation between Duration of illness and Renal dysfunction:

Duration of illness (years)	Serum Creatinine				Total
	> 1.5	%	< 1.5	%	
≤ 3 years	12	83.1%	103	84.4%	115
3 – 6 years	2	15.3%	13	11.3%	16
> 6 years	1	1.6%	5	4.3%	5
Total	15	100%	122	100%	136

Table 3: One-way ANOVA: Renal dysfunction and duration of illness

Duration of illness(years)	N	Mean	SD	95%CI
≤ 3 years	115	1.0897	0.7212	1.0238, 1.1556
3 – 6 years	16	0.9489	0.7402	0.7707, 1.1270
> 6 years	5	0.849	0.627	0.554, 1.144

Table 4: Tukey Pairwise Comparison: Renal dysfunction &duration of illness

Difference of levels	Difference of means	SE of Difference	95% CI	T value	P – value
2 – 1	-0.1408	0.967	-0.3672, 0.0855	-1.46	0.312
3 – 1	-0.241	0.154	-0.601, 0.119	-1.56	0.261
3 – 2	-0.100	0.175	-0.510, 0.311	-0.57	0.837

P value – Non significant.

Among those patients with renal dysfunction, 83.1% patients were diagnosed within past 3 years. 15.3% patients had duration of illness 3 to 6 years and only 1.6% patients had duration of illness more than 6 years. The influence of duration of illness on the risk of renal dysfunction was analyzed using One way ANOVA and Tukey pair wise analysis and found to be non significant.

Discussion

Proteinuria and or abnormal serum Creatinine was taken as renal dysfunction. In our study, 10.8% patients of the study population had elevated serum Creatinine and 10.6% patients had proteinuria. Prevalence of renal dysfunction in our study was 14.3%. In the study done by Gupta et al[8], 13.8% patients of the study population had proteinuria and 3.4% patients had abnormal serum Creatinine. Prevalence of renal dysfunction in their study was 17.3%. In a study done by TM Han et al[9] on 615 HIV positive patients in South Africa, the prevalence of proteinuria was 6.17%. Crowley et al[10] evaluating spot urine samples, reported prevalence of ≥1+ proteinuria in 22.4 per cent patients with prevalence of persistent proteinuria as 14 per cent[8]. Overt proteinuria has been encountered in 14-50 per cent of HIV/AIDS patients in various studies depending upon method of screening and patient population. In our study 18 patients among those with renal dysfunction were having acute kidney injury and recovered normal renal function during the time period.

Conclusion

Prevalence of renal dysfunction in our study was 14.3%. Among them, 18 patients were having acute kidney injury and recovered normal renal functions. This study shows that the risk of renal dysfunction is higher in inpatients compared to outpatients. This study shows that the risk of renal dysfunction is higher in advanced stages of the disease.

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