HIV Drug Therapy GLASGOW 2018

28-31 October 2018

n. P254

USE OF URINARY ALBUMIN AS A MARKER OF RENAL DAMAGE IN PATIENTS WITH CHRONIC HEPATITIS C TREATED WITH DIRECT ANTIVIRAL DRUGS

Granozzi B., Badia. L., Viotti. V., Guardigni V., Viale P., Verucchi G.

Department of Medical and Surgical Sciences – Alma Mater Studiorum – University of Bologna

Background

Direct-acting antiviral medications (DAAs) have revolutionized care for chronic hepatitis C virus infection.
Anyway, data on kidney safety of these drugs are still scarce.
Aim of this study was to evaluate urinary albumin modifications and subclinical glomerular damage during and after treatment with DAAs.

Material and Methods

We retrospectively evaluated patients treated with DAAs between February 2016 and November 2017 with baseline creatinine clearance >60 ml/min/1.73 m2 and who achieved SVR. Urinary albumin concentration and serum creatinine were measured at baseline and at the end of 12 weeks of follow up.

Results

Eighty-seven patients with HCV infection (55.2% HCV/HIV coinfected) were included in this study.
Hypertension was the highest represented comorbidity (29.9%), followed by diabetes (10.3%) There were no significant changes in serum creatinine concentration and eGFR during therapy and at the end of follow-up. In 40 patients (46.0%) an increase in urinary albumin value was observed; the average increase was 36.9 mg/l (range 1-775). Univariate analysis revealed no significant associations between an increased urine albumin value in the follow-up and the baseline characteristics of the population (BMI, HIV infection, cirrhosis, diabetes, hypertension, antiretroviral therapies with tenofovir).
Quantitative analysis of urinary albumin concentration variation showed a statistically significant correlation, at the univariate analysis, with baseline urinary albumin values (p value <0.001) and hypertension. Patients with higher baseline values of urinary albumin and those with hypertension showed a greater increase in these values. [Table 1]
At the multivariate analysis the association with basal urinary albumin values (p<0.001) was confirmed and the association with diabetes mellitus acquired statistical significance (p value<0.01), showing a greater decrease in urinary albumin values in patients with diabetes. [Table2]

Conclusion

Urinary albumin values deteriorate in absolute terms in 46% of patients; this increase appears quantitatively related to the baseline values, while correlation with other clinical features and/or risk factors for renal disease do not emerge; therefore a risk of direct damage caused by DAAs at the glomerular level cannot be excluded.
The presence of diabetes mellitus is directly associated with a greater decrease in urinary albumin values; this result can probably be explained by the improvement of glycemic control, already revealed in some studies, in diabetic patients treated with regimens containing DAAs. Clinicians should be aware of possible subclinical glomerular damage during treatment with DAAs and routine monitoring of glomerular markers should be considered.

Baseline parameters	β	SEE	t	p
Age	0,1	0,8	0,93	0,36
creatinine	0,12	51,2	1,06	0,29
urinary albumin	0,87	0,11	16,6	**<0,001**
chirrosis	-0,1	19,7	-0,7	0,47
cryoglobulin	-0	23	-0,3	0,8
diabetes	-0,1	30,6	-0,4	0,66
hypertension	0,22	19,9	2,04	**0,04**
HIV infection	0,07	18,7	0,76	0,51
SOF-containing DAA regimen	-0,2	20,1	-1,5	0,15
TDF-containing ART	-0,1	34,2	-0,6	0,57

Table 1: Univariate analysis

Baseline parameters	β	SEE	t	p
Cryoglobulins	0,04	11	0,73	0,468
urinary albumin	0,87	0,11	16,38	**<0,001**
Diabetes	-0,14	15,1	-2,62	**<0,01**
Hypertension	0,09	10,2	1,66	0,101
SOF-containing DAA regimen	-0,02	9,81	-0,37	0,714

Table 2: Multivariate analysis

REFERENCE

[1] A. Strazzulla, G. Coppolino, G. S. Barreca, et al., “Evolution of glomerular filtration rates and neutrophil gelatinase- associated lipocalin during treatment with direct acting antivirals.”, *Clinical and Molecular Hepatology,* 2018.

[2] R. Dell’ Acqua, G. de Vita, A. Procopio, et al., “Renal function changes in HCV-infected patients with chronic kidney disease during and after treatment with direct antiviral agents.”, *Digestive and liver disease*, vol. 49, pp. 1166-1169, 2017.

[3] M. Corouge, A. Vallet Pichard, S. Pol, “HCV and kidney.”, *Liver International*, vol: 36, pp: 28-33, 2016.

[4] L. Holzscheiter, C. Beck, S. Rutz, E. Manuilova, I., et al., “NGAL, L FABP, and KIM-1 in comparison to established markers of renal dysfunction.”, *Clinical Chemistry and Laboratory Medicine,* vol. 52, pp.537-546, *2014*.