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The circadian rhythm in CKD patients

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Abstract

Some proteins regulating circadian rhythm may involve in sleep disorders and circadian clock gene edcoded proteins, nuclear PER and CRY ptochrome (CRY), play a role in regulation of circadian rhythm. We designed a questionnaire to patients with CKD stages 1-5 and investigated the levels of CRY mRNA and protein in PB lymphocytes. Research enrolled 101 patients (52 male and 49 female) with CKD stages 1-5. Patients were screened by strict exclusion criteria. The clinical files included general information of patients and blood biochemical test data. Subjective sleep quality was assessed using PSQI. The expression of circadian clock genes PER1 and CRY1 were tested in PB leukocytes using RT-PCR and WB. Sleep questionnaires were obtained from patients. There were significant differences between the group of PSOI < 5 and PSQI > 5 in aging and scr index. PSQI score was negative correlated with the stage of CKD. Levels of PER1 and CRY1 in PBMC were highest in CKD 1 stage patients, while lowest in CKD stage 5. The progress of CKD was associated with degree of sleep disorders. Score of PSQI was negativly correlated with lower eGFR. Hb, HCT, Alb and ALT were significantly better in group whose PSQI \leq 5. There is correlation between decreased sleep quality and elevated CRP level. The more aging and CRP, the higher PSQI score. PER1 and CRY1 were higher expressed in patients with CKD stage 1 and lowest in CKD stage 5 patients. Circadian rhythm of PBMCs was associated with the stage of CKD.



Biography:

Xiangcheng Xiao is the director of Department of Nephrology, Xiangya Hospital, Central South University and holds a number of academic positions in China. He has published 50 papers in reputed journals.

Journal of Interventional Nephrology

Speaker Publications:

1. "Identification of C3 as a therapeutic target for diabetic nephropathy by bioinformatics analysis"

2. "Clinical characteristics of acute glomerulonephritis with presentation of nephrotic syndrome at onset in children"

3 "Development of prognostic model for patients at CKD stage 3a and 3b in South Central China using computational intelligence"

4. "P0686the Circadian Rhythm In Ckd Patients".

5. "Sialic acid-conjugated PLGA nanoparticles enhance the protective effect of lycopene in chemotherapeutic drug-induced kidney injury"

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