

IMPACT OF THE HEMODIALYSIS AND HEART FAILURE ON RESPIRATORY FUNCTION IN PATIENTS WITH END-STAGE RENAL DISEASE

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Patients with chronic kidney disease often have multiple comorbidities such as concomitant cardiovascular disease which are involved in the combine pathology progression the respiratory system due to interdependent mechanisms.

The aim of our study was to evaluate the influence of hemodialysis treatment and presence of the heart failure on the respiratory function in patients with end-stage renal disease on hemodialysis.

Materials and methods. All patients were divided into groups: I group included 30 patients with end-stage renal disease on hemodialysis, II group - 16 patients with end-stage renal disease on hemodialysis with heart failure. Control group – 12 healthy persons. Laboratory blood tests of hematological parameters, lipid profile, renal function tests and spirometry tests were performed in addition to standard diagnostic program.

significant difference ($p < 0.05$) in patients of the first and second groups between the indicators of the (78[71-90]), forced vital capacity in the first second (93[85-99]), peak expiratory flow (82[64-94]), maximal mid-expiratory flow 25 (75[66-112]% and 72.5[67-79]%) and this parameters were statistically lower relative to the control group: (102.5[98-113]; font-family: "Times New Roman", serif; color: black; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;"> forced vital capacity in the first second (107.5[105.5-124]%), peak expiratory flow (99.5[95-102.5]%), maximal mid-expiratory flow 25 (98.5[97.5-101.5]%). The duration of replacement therapy was negatively correlated with spirometric parameters: vital capacity maximal ($R = -0,46$; $p < 0.05$), ($R = -0,43$; $p < 0.05$), peak expiratory flow ($R = -0,73$; $p < 0.05$), maximal mid-expiratory flow ($R = -0,41$; $p < 0.05$).

Conclusions. Pulmonary function abnormalities are common among patients with end-stage renal disease on hemodialysis. Heart failure is closely associated with restrictive and obstructive respiratory abnormalities.