IRON DEFICIENCY IN ANEMIC PATIENTS WITH М CHRONIC HEART FAILURE

Ryndina N.G. (Ass. Prof.), Tytova G.Y. (Assoc. Prof)

Kharkov national medical university

Department of internal medicine №2, clinical immunology and allergology.

Scientific Chief – M.D., PhD., Prof. Kravchun P.G.

Anemia has been recognized as a very common and serious comorbidity in chronic heart failure (CHF) with a prevalence ranging from 10 to 79%, depending on diagnostic definition, disease severity and patient characteristics.

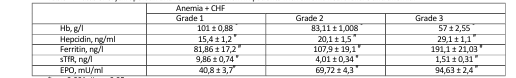
The purpose: to find out a role of iron deficiency in development of anemia in patients with CHF.

Materials and methods: 200 anemic patients with CHF were examined. 60 % of patients had diagnosed II functional class (FC) of CHF, as a result of ischemic heart disease (IHD), according to NYHA classification, 40 % - had III FC. Patients have been divided according to WHO classification Grading of anemia. For 45 % of patients Gradе 1 of anemia was diagnosed, for 35 % - Gradе 2, for 20 % - Gradе 3.

Results :As far as severity of anemia increases for patients with CHF the reliable increase of level of erythropoietin (EPO), hepcidin, ferritin was determined and decline of maintenance of soluble transferrin receptors (sTfR) in the blood serum, Hb (r<0,05). Cross-correlation connections are found between Hb and hepcidin (r= -0,49), EPO level (r= -0,31), sTfR (r= -0,44). Growth of level of erythropoietin on a background of decreased eritropoetic activity, presented by sTfR, testifies to the presence of EPO-resistence in anemic patients with CHF.

The increase of hepcidin maintenance in blood serum was accompanied by the decline of level on a background growth of Fe in a depot, presented by ferritin, that reflects the presence of functional deficiency of iron in patients with anemia on a background of CHF.

Table 1. Datas of erythropoietin and ferrum metabolism in patients with chronic heart failure and anemia.



\* - р<0,001, # - р<0,05

Conclusion: Development of anemia in patients with CHF is accompanied by the functional Fe deficiency because of depositing of Fe, as a result of high hepcidin activity, by the phenomena of EPO-resistance on a background of decreased erithropoietic activity.