

19<sup>th</sup> Global

# Nephrologists Annual Meeting

May 14-15, 2018 | Rome, Italy

## Hepcidin, inflammation and iron supplementation in patients with chronic kidney diseases

Diana Hrisstova Yonova<sup>1</sup>, Ivan Trendafilov<sup>3</sup>, V Manolov<sup>2</sup>, B Atanasova<sup>2</sup>, I Georgieva<sup>3</sup>, V Papazov<sup>3</sup>, V Vasilev<sup>2</sup>, N Velkova<sup>1</sup> and V Dimitrova<sup>1</sup><sup>1</sup>University Hospital "Lozenetz", Bulgaria<sup>2</sup>Medical University, Sofia, Bulgaria<sup>3</sup>University Dialysis Center, Bulgaria

**CAim:** The inflammation interferes with iron (Fe) utilization through hepcidin in patients with chronic kidney diseases (CKD). To evaluate the influence of iron therapy on the inflammation and change of hepcidin levels in patients with CKD on conservative treatment (COT) or on hemodialysis (HD) we measured sFe, ferritin, TSAT, and some inflammatory markers in group 1 (HD pts., treated with i.v. iron), group 2 (HD pts. without iron therapy and, group 3 – patients with CKD on COT and group 4 - healthy controls.

**Methods:** 32 HD pts., treated with i.v. iron, 30 HD pts., without iron therapy, 35 patients with CKD, without iron therapy, on COT and, 50 healthy controls were tested for sFe, ferritin, TSAT, C-reactive protein (CRP), TNF-alfa, IL-6, albumin (Alb) and hepcidin. ANOVA statistical analysis was made for the comparative analysis.

**Results:** The both groups of HD patients had lower levels of Alb, and higher ferritin, TSAT, TNF-alfa, IL-6 and hepcidin than in the controls ( $p < 0.001$ ), but HD pts., supplied with i.v. iron showed significantly higher inflammatory markers than HD pts., without Fe supplementation ( $p < 0.01$ ). The CKD patients on COT had results different than of the controls and the HD patients on iron therapy but similar to HD patients without i.v. iron.

**Conclusions:** The study suggests that CKD patients on COT or on HD have a chronic inflammatory status and application of i.v. iron even increases it. Surely that means an increased oxidative stress that must be further investigated and treated regularly.

yonovad@abv.bg