

**ANEMIA MANGEMENT AND COMPILANCE OF CHRONIC KIDNEY DISEASE  
AMBULATORY PATIENTS DURING COVID-19 CRISES**

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Dear Editor,

As per general recommendations for patients with chronic kidney disease (CKD) issued during COVID-19 pandemic crises [1], unnecessary hospital visits should be avoided because patients with CKD are susceptible to COVID-19 and hospitals are high-risk places with some potentially-infected patients. Also, considering the ambulatory treatment of anemia with subcutaneous injections of erythropoietin stimulating agents (ESA), replacement by oral drugs is recommended. Treatment with ESAs in patients with COVID-19 would not only have limited effectiveness but could also be potentially harmful. This is due to a remarkably prothrombotic state seen with severe COVID-19<sup>6</sup> and the tendency of ESAs to induce thromboses [2].

In our institution, 36 CKD patients have been regularly followed and treated for anemia with subcutaneous administration of ESA and intra venous application of iron, mostly on weekly basis. From march 2020, patients were contacted and advised for education on self-administration of erythropoietin, storage and compliance with treatment. Intravenous administration of iron was to be switched for oral supplements. Patients were not encouraged for higher doses of erythropoietin when levels of hemoglobin were up to 105g/l.

Twenty one (58%) patients excepted to be educated, 3 (8%) refused to come because of fear from getting infected by COVID-19 and 12 (33%) preferred coming at the clinic for therapy. Patients that were self-administrating therapy at home, were also advised for having blood analysis at general practitioner once in two months. Ones that preferred coming to the clinic were switched for double doses on two or three weeks periods.

After six months of the COVID crises, there were no patients with symptoms or positive on SARS-CoV-2 virus, no matter they were coming to the clinic or not. Out of all 36, only one patient that also did not come for therapy, was referred for rapid declining of eGFR and need for dialysis and blood transfusion. In all other patients creatinine level did not increase significantly ( $293.21 \pm 91.66$  vs  $315.80 \pm 112.66$   $\mu\text{mol/l}$ ,  $p=0.089$ ) and eGFRs remained in same stage in 85% of patients. The hemoglobin levels and erythropoietin doses remained stable ( $108.73 \pm 11.72$  vs  $103.00 \pm 16.78$  g/l,  $p=0.302$ ;  $2818.18 \pm 1131.74$  IU/week,  $p=0.615$ ), respectively. The ferritin blood levels dropped but insignificantly ( $p=0.739$ ). No adverse events were reported by patients self-administrating erythropoietin.

Our experience showed good compliance of ambulatory CKD patients treated for anemia during first six months of COVID -19 pandemic.

1. Juan Li, Shuang-Xi Li, Li-Fang Zhao, De-Liang Kong, Zhi-Yong Guo,. Management recommendations for patients with chronic kidney disease during the novel coronavirus disease 2019 (COVID-19) epidemic. *Chronic Diseases and Translational Medicine*, Volume 6, Issue 2, 2020, Pages 119-123, ISSN 2095-882X, <https://doi.org/10.1016/j.cdtm.2020.05.001>. (<http://www.sciencedirect.com/science/article/pii/S2095882X20300402>).
2. Fishbane S, Hirsch JS. Erythropoiesis-Stimulating Agent Treatment in Patients With COVID-19. *Am J Kidney Dis*. 2020;76(3):303-305. doi:10.1053/j.ajkd.2020.05.002.