



## **Hypoxia Inducible Factors Proly-Hydroxylase Inhibitors: A Novel Treatment of CKD Patient Anemia**

Guest Editors:

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### **Message from the Guest Editors**

The pathogenesis of anemia in chronic kidney disease (CKD) patients includes decreased production of erythropoietin (EPO), often associated with iron deficiency; its current management includes iron supplementation, erythropoiesis-stimulating agents (ESAs), and eventually red blood cell transfusion.

A novel class of therapeutic agents for the treatment of anemia in patients with CKD was developed by inhibiting the enzymes that control hypoxia-inducible factors (HIFs). HIFs are controlled by a family of prolyl hydroxylase enzymes, important for maintaining the relationship between oxygen availability and HIF- $\alpha$  expression. These HIF proteins, known as ‘oxygen sensors’ due to their dependency upon oxygen as a direct substrate, are called PHD1, PHD2, and PHD3 based on their distinctive prolyl-4-hydroxylase domains (PHD).

Phase 3 trials recently became available for drugs of this class.

This Special Issue aims to report and discuss the efficacy and safety and clinical impact of these drugs, according to the present available data with the help of major experts in the field of treatment of anemia in CKD patients.





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## Editor-in-Chief

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## Message from the Editor-in-Chief

In recent years, we have been witnessing dramatically increased interest in the treatment of chronic kidney disease, e.g., diabetic kidney disease, glomerular disease, or autosomal dominant polycystic kidney disease, but also aimed more generally on the progression of chronic kidney disease and the complications of chronic kidney disease, such as anemia, or hyperkalemia. This progress has led to changing paradigms as reflected by several recently published KDIGO guidelines which now need to be updated much more frequently than before. To personalize treatment, we also need better diagnostic methods, including validated biomarkers reflecting the activity of the disease (including response to treatment) and predicting outcomes.

*Kidney and Dialysis* aims to cover most of these areas not only in terms of feature reviews, but also original articles, and to keep the reader updated on recent progress in nephrology and dialysis.

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