

PEER-REVIEW REPORT

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Title: Effects of hypoxia on bone metabolism and anemia in patients with chronic kidney disease

Reviewer's code: 03782335

Position: Peer Reviewer

Academic degree: MD, PhD

Professional title: Assistant Professor

Reviewer's Country/Territory: Kosovo

Author's Country/Territory: China

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Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

Authors of this manuscript discuss an interesting topic involved in the pathophysiology of complications of chronic kidney disease. CKD is known for its multiple complications which affect morbidity and mortality of the patients. Resolving the mechanistic aspects of the complications is important step in finding new therapeutic options in CKD. In any case, I have my suggestions for this manuscript, and they are as follows:

- 1.Pathophysiology of anemia in CKD includes many important factors some of which have not been mentioned by the authors, such as presence of comorbidities, resistance of bone marrow to EPO action due to uremic toxins, reduced red cell life span, hepcidin metabolism dysfunction ("Pathophysiology of renal anaemia", Colin C Geddes)
- 2.Please add reference(s) for the sentence "According to prior research and experience from clinical practice, the pathogenesis and potentially the treatment of renal anemia and abnormal bone metabolism may share multiple similarities".
- 3.Please add reference for the sentence "VDR is also expressed by immunocytes, and VDR activation on these cells enhance their anti-inflammatory effects and also promote the proliferation of erythrocyte progenitor cells".
- 4.In Figure 1, hepcidin overproduction is associated with cytokine production during inflammation, but other factors are also involved like decreased renal clearance. Also use correctly CFU and CUF abbreviations as they seem to represent the same concept.
- 5.The suppression of hepcidin and the resulting increased iron availability for erythropoiesis are mediated by erythroferrone (ERFE), in response to stimulation by erythropoietin. There is no discussion about the role of ERFE in anemia in CKD (Hanudel et al., "Levels of the erythropoietin-responsive hormone erythroferrone in mice and humans with chronic kidney disease").