




Erythropoietin and iron: separating the builder from his blocks

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To the Editor,

We read with interest the recently published systematic review on safety and efficacy of erythropoietin and iron therapy in surgical patients.¹ Nevertheless, we question as to whether the authors are correct to place these two interventions together.

Erythropoietin is a hormone for erythropoiesis—i.e., it is the builder of red blood cells. On the other hand, iron is a substrate for haemoglobin—i.e., it is a building block. In combination, intravenous iron increases the effectiveness of erythropoiesis-stimulating agents (ESAs)²—i.e., the builder supplied with sufficient building blocks can then work effectively. Conversely, ESAs do not work if the underlying problem is iron deficiency,³ and giving intravenous iron alone does not lead to polycythemia.⁴

In the meta-analysis by Kei *et al.*,¹ there is no mention of the patient iron status. Furthermore, non-anemic populations were also included, where we can infer that the majority (> 75%) of the study populations may be iron replete.⁵ Therefore, intravenous iron has no role in these patients and would not be expected to change the primary endpoint reported in the meta-analysis. The analysis may therefore be confounded.

The interpretation of these data would be enhanced by knowing what were the outcomes and analyses for those

patients for whom iron therapy was actually clinically indicated.

Conflicts of interest None declared.

Editorial responsibility This submission was handled by Dr. Hilary P. Grocott, Editor-in-Chief, *Canadian Journal of Anesthesia*.

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