Response to “‘Preoperative intravenous iron for iron deficiency is cost-effective prior to major elective surgery’”

Dear editor,

We read with interest the correspondence to our recently published systematic review entitled “Lack of Cost-Effectiveness of Preoperative Erythropoiesis-Stimulating Agents and/or Iron Therapy in Anaemic, Elective Surgery Patients: A Systematic Review and Updated Analysis” by Trentino et al. [1].

The authors do not seem to question the validity of the first part of our conclusion, which states that a combined EPO and iron treatment is likely not cost-effective. They do question the second part, which concludes that the cost-effectiveness of routine preoperative iron supplementation in anaemic elective surgery remains unproven. They especially question why their own economic evaluation of a screening and treating iron-deficiency anaemia program was not included in our manuscript [2].

The reason for this is that our research question only looked at 1) people with anaemia and 2) treatment of these anaemic people with iron, and therefore is more focussed than the program described in Trentino et al. (which also includes the screening component, and which was not the focus of our review). Our methods section transparently describes the selection criteria used, and we therefore disagree that this is a quality issue of our review.

Furthermore, the fact that we did not include the analysis by Trentino et al., which is based on non-randomized data, did not influence our overall conclusion one way or another. This analysis, which has significant methodological limitations, does not allow to make strong conclusions about the cost-effectiveness of pre-operative anaemia screen-and-treat clinics, let alone about the use of preoperative iron in anaemic patients alone. Firstly, the authors used a historical control group of patients who underwent surgery before the implementation of the anaemia clinics. Apart from the obvious risk of bias associated with the use of historical controls [3], the historical control group of unscreened patients includes both patients with iron-deficient anaemia and patients with non-iron-deficient anaemia, while the intervention group only contains patients with iron-deficient anaemia, making any comparison between these two groups unreliable. Secondly, the study investigates the cost-effectiveness of a preoperative anaemia clinic that screens for, and treats both iron-deficient and non-iron-deficient anaemia, while only the costs related to screening for iron deficiency and treatment with iron supplementation are included in the analysis, thus further decreasing the reliability of the findings. Finally, the authors focus on the reduction of transfusion needs, which is but a surrogate outcome for other, more important outcomes (mortality, morbidity, quality of life) [4].

A recently published, high-quality, network meta-analysis of patient blood management interventions (including preoperative iron treatment in anaemia) also concluded that there currently is too little evidence of sufficient quality to make strong conclusions about the cost-effectiveness of patient blood management interventions [5]. This confirms what we also mention in our discussion: a recent meta-analysis of well-designed randomized studies [6] was unable to demonstrate clinical efficacy of iron supplementation in patients with preoperative anaemia, thus rendering speculative any conclusion about the cost-effectiveness of this intervention (as the authors of the letter seem to demand).

We would look forward to randomized studies evaluating the effectiveness and cost-effectiveness of anaemia screening programs.

Sincerely,

Bert Avau, Hans Van Remoortel, Emmy De Buck, Veerle Compernolle, Philippe Vandekerckhove

References: