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Text

The FIT trial showed that only 17% and 16% of non-metastatic and resectable colorectal cancer (CRC) patients with iron deficiency anaemia (IDA) had normalisation of haemoglobin at the day of admission for elective surgery by intravenous ferric carboxymaltose (FCM) and oral ferrous fumarate, respectively.[1] The non-superiority of FCM infusion over oral iron during the approximately two-week preoperative period on anaemia management of CRC patients seems disappointing, however, some points should be further discussed before incorporating the findings into clinical practice.

The result of the primary outcome seems inconclusive as the trial was underpowered by overestimating the effect of intravenous/oral iron supplementation on haemoglobin normalisation among anaemic CRC patients, leading to a greater probability of making a type II error. The overestimate might have been derived from the difference in the prevalence of functional iron deficiency between anaemic post-partum women[2] and anaemic patients with non-metastatic CRC. The authors referred to the study by Seid and colleagues for sample size calculation,[1] which showed that almost all anaemic post-partum women had absolute iron deficiency, with a mean ferritin of 24 µg/L and a mean TSAT of 9.4%.[2] Contrarily in the FIT trial, 86 (46%) of 189 and 102 (58%) of 176 patients had ferritin levels above 30 and CRP levels above 5 mg/L, respectively, and the subpopulations with FCM infusion showed earlier and significantly greater haemoglobin increase than those with oral iron supplementation (Supplementary table 8&9).[1] Therefore, ferritin levels should have been added in the inclusion criteria to differentiate between absolute and functional iron deficiency. We believe that the related subgroup analysis can better define the population suitable for short-term treatment with FCM infusion. Additionally, erythrocyte mean corpuscular volume levels of the participants should be considered concurrently, as proximal tumor location and systemic inflammation are associated with predominantly microcytic anaemia and normocytic anaemia among CRC patients, respectively.[3]

Given that peak effects of haemoglobin increase by FCM can be observed at 3–6 weeks after infusion,[4] setting a short-term haemoglobin normalisation as a primary outcome seems inappropriate, possibly contributing to little between-group difference in the trial.[1] Furthermore, it seems unreasonable and somewhat harmful to continue the same treatment in the postoperative period for poor responders to preoperative oral iron supplementation. As surgical inflammation can additionally dampen intestinal iron absorption, these patients should be switched to intravenous iron supplementation, in line with the international consensus statement on the management of postoperative anaemia after major surgeries.[5]

References

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