



IV Iron Practices Today for Improved Anemia Outcomes Tomorrow

Improving Response to ESA Therapy in Hemodialysis Patients

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Many patients with chronic kidney disease and those undergoing hemodialysis require treatment with erythropoiesis-stimulating agents (ESAs); however, some respond minimally as measured by hemoglobin (Hb) levels.¹ This hyporesponsiveness to ESA therapy is a clinical challenge in hemodialysis units, because patients with suboptimal responses to ESAs may become more anemic or require a higher ESA dose to maintain Hb levels within the target range.¹ The trend over the past 8 years has been to increase ESA doses in hemodialysis patients, but no data support this trend in terms of decreasing morbidity or mortality.² In fact, using higher ESA doses may result in poorer outcomes.³

The most common reasons for hyporesponsiveness to ESA therapy are inflammation, iron-restricted erythropoiesis, and bone-marrow suppression.⁴ In all these situations, the body's demand for iron increases. Tests of iron deficiency, such as serum ferritin and transferrin saturation (TSAT), may not reveal the amount of iron truly available for erythropoiesis, particularly during ESA therapy. For example, serum ferritin levels may be elevated during inflammation, even in the presence of iron-restricted erythropoiesis.¹

Recent research supports the use of intravenous (IV) iron administration to enhance ESA responsiveness in hemodialysis patients.^{5,6} In the Dialysis Patients' Response to IV Iron With Elevated Ferritin (DRIVE) study,⁵ patients with serum ferritin levels between 500 and 1200 ng/mL, TSAT levels $\leq 25\%$, and adequate doses of an ESA had a better response when IV iron was added to ESA therapy than when ESA therapy was used alone. DRIVE-II, a 6-week follow-up study, confirmed that the administration of IV iron decreased ESA doses.⁶

In the context of concerns associated with higher ESA doses, it is important to develop strategies that minimize ESA hyporesponsiveness. Clinicians need to thoughtfully interpret tests assessing the real availability of iron for physiological use in hemodialysis patients. The administration of IV iron may significantly enhance ESA responsiveness in this population.

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