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Erythropoietin and Mortality in Taiwan Dialysis Patients

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Anemia is an important complication in patients with advanced chronic kidney disease. Erythropoiesis-stimulating agents (ESAs), iron, and hypoxia-inducible factor prolyl-hydroxylase inhibitors (HIF-PHIs) are effective treatments for anemia. However, high-dose ESAs (higher than 40,000 U/month) are shown to increase the risks of mortality and adverse cardiovascular events in patients with chronic kidney disease or cancer. Subsequent post-hoc analyses suggested that a monthly epoetin dose of around 16,000 to 24,000 U may be associated with the lowest risk of mortality. Interestingly, the ESA dose in Taiwan is regulated by the National Health Insurance, and the dosing is much lower than that adopted in Western countries. I analyzed the association between ESA dose and outcomes in CKD patients at two medical centers in Taiwan. The results suggested that ESA doses between 15,000-25,000 U/month are associated with better survival than doses less than 15,000 U/month. Future studies are warranted to confirm the clinical effects of low- to medium-dose ESAs administered in Taiwan.

貧血是嚴重慢性腎臟病患者的重要併發症。促紅血球生成劑（erythropoiesis-stimulating agents, ESAs）、鐵劑以及缺氧誘導因子脯氨酰羥化酶抑制劑（hypoxia-inducible factor prolyl-hydroxylase inhibitors, HIF-PHIs）可以有效地提升血色素以治療貧血。然而，高劑量促紅血球生成劑（每月超過 40,000 單位）被證實會增加慢性腎臟病或癌症患者的死亡風險以及不良的心血管事件風險。後續的研究進一步顯示，每月約 16,000 至 24,000 單位的 epoetin 劑量可能與最低的死亡風險相關。在台灣，促紅血球生成劑的劑量受到全民健康保險的規範，其使用劑量低於西方國家。我分析了在台灣兩家醫療中心促紅血球生成劑劑量與慢性腎臟病患者預後之間的關聯。結果顯示，每月 15,000 至 25,000 單位的促紅血球生成劑劑量，比起每月少於 15,000 單位的劑量，與較好的生存率相關。未來的研究需要進一步確認，在台灣使用低至中等劑量促紅血球生成劑的臨床效果。