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Effect of erythropoiesis-stimulating agent types on malignancy in hemodialysis patients

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Objectives : Since erythropoiesis stimulating agent (ESA) types vary in their affinity for receptors, investigating their association with malignancies could offer valuable insights. This study aims to evaluate the effect of ESA types on malignancy incidence in hemodialysis (HD) patients.
Methods : This retrospective study analyzed data from 33 960 HD patients, who underwent 4th and 5th HD quality assessments. Participants were divided into 3 groups: short-, intermediate-, and long-acting groups. The onset of any malignancy was defined as the date of the first diagnosis based on ICD-10 codes for the 12 most common malignancies. Patient survival assessed for those with a first diagnosis of any malignancy during follow-up.
Results : The short-, intermediate-, and long-acting groups comprised 26 006, 6 448, and 1 506 patients, respectively (over ~ 75 mo follow-up). The 5-year malignancy-free rates were 88.4%, 88.2%, and 87.0% for short-, intermediate-, and long-acting groups, respectively (P = 0.024 for short/intermediate-acting vs. long-acting group). Univariable and multivariable analyses showed higher malignancy risk in the long-acting group, especially in males, older individuals, and those on higher ESA doses. We performed analyses using a balanced cohort after propensity score weighting. The balanced cohort also confirmed higher malignancy risk in the long-acting group, while survival rates remained unaffected by ESA type.
Conclusions : Our population-based cohort study reveals an association between long-acting ESAs use and the incidence of any malignancy, with a particularly strong influence on high-dose users. This suggests that avoiding long-acting ESAs may be advisable for patients at high risk of malignancy.