

ANEMIA EN EL ANCIANO

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Kosiborod M, Curtis JP, Wang Y, Smith GL, Masoudi FA, Foody JM, Havranek EP, Krumholz HM.

Anemia and outcomes in patients with heart failure: a study from the National Heart Care Project.

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BACKGROUND: Recent reports have suggested that anemia is associated with adverse outcomes in patients with heart failure (HF), but were unable to adjust for a broad range of comorbid conditions. As a result, whether anemia is a truly independent predictor of risk or a marker of comorbid illness in these patients is unknown.

METHODS: We analyzed medical records from the Centers for Medicare & Medicaid Services' National Heart Care Project, a national sample of 50,405 patients 65 years and older admitted to acute care hospitals with a principal discharge diagnosis of HF between April 1, 1998, and March 31, 1999, or between July 1, 2000, and June 30, 2001. Multivariable logistic regression analyses were conducted to test whether hematocrit level was an independent predictor of all-cause mortality and HF-related readmission at 1 year.

RESULTS: In unadjusted analysis, lower hematocrit levels were associated with increased 1-year mortality and readmission for HF. Compared with patients with a hematocrit greater than 40% to 44%, those with a hematocrit of 24% or less had a 51% higher risk of death (relative risk [RR], 1.51; 95% confidence interval [CI], 1.35-1.68; $P < .001$) and a 17% higher risk of HF-related readmission (RR, 1.17; 95% CI, 1.01-1.34; $P = .04$). However, after adjustment for multiple comorbidities and other clinical factors, the association between lower hematocrit levels and increased 1-year mortality was markedly attenuated, even in those patients with the most severe anemia (hematocrit, $\leq 24\%$ vs $> 40\%$ -44%: RR, 1.02; 95% CI, 0.86-1.19; $P = .85$). The association between lower hematocrit values and HF-related readmission persisted after multivariable adjustment (hematocrit, $\leq 24\%$ vs $> 40\%$ -44%: RR, 1.21; 95% CI, 1.04-1.38; $P = .01$).

CONCLUSIONS: Although anemia is an independent predictor of hospital readmission, its relationship with increased mortality in HF patients is largely explained by the severity of comorbid illness. These findings suggest that anemia may be predominantly a marker rather than a mediator of increased mortality risk in older patients with HF.

Ble A, Fink JC, Woodman RC, Klausner MA, Windham BG, Guralnik JM, Ferrucci L.

Renal function, erythropoietin, and anemia of older persons: the InCHIANTI study.

Arch Intern Med. 2005 Oct 24;165(19):2222-7.

BACKGROUND: In the older population, anemia has been associated with poor outcomes including disability and mortality. Understanding the mechanisms leading to anemia is essential to plan better treatment and prevention strategies. We tested the hypothesis that the age-related decline in kidney function is associated with an increased prevalence of anemia and that such an increase is accompanied by a concomitant decrement in erythropoietin levels.

METHODS: Data were from the InCHIANTI study, a population-based study performed in a sample of community-dwelling older (> or = 65 years) persons living in Italy. This analysis included 1005 participants with complete data on hemoglobin and erythropoietin levels and markers of renal function.

RESULTS: The prevalence of anemia according to the World Health Organization criteria (hemoglobin level < 12 g/dL for women and < 13 g/dL for men) was 12.0% and increased with age in both sexes. After adjusting for age, diseases, and other confounders, only participants with a creatinine clearance (CrCl) of 30 mL/min or lower (< or = 0.50 mL/s) had a higher prevalence of anemia compared with those with a CrCl higher than 90 mL/min (> 1.50 mL/s) ($P < .01$). Consistently, participants with a CrCl of 30 mL/min or lower (< or = 0.50 mL/s) had significantly lower age- and hemoglobin-adjusted erythropoietin endogenous levels. After excluding men and women with CrCl of 30 mL/min or lower (< or = 0.50 mL/s) and adjusting for confounders, we found a trend toward an increase in prevalence of anemia with decreasing renal function; however, it was not statistically significant.

CONCLUSIONS: Severe age-related decline in renal function is associated with a reduced erythropoietin secretion and anemia. Whether moderate kidney impairment in older persons is associated with a progressively increasing risk of anemia remains to be determined.

Zakai NA, Katz R, Hirsch C, Shlipak MG, Chaves PH, Newman AB, Cushman M.

A prospective study of anemia status, hemoglobin concentration, and mortality in an elderly cohort: the Cardiovascular Health Study.

Arch Intern Med. 2005 Oct 24;165(19):2214-20.

BACKGROUND: Anemia is viewed as a negative prognostic factor in the elderly population; its independent impact on survival is unclear.

METHODS: Baseline hemoglobin quintiles and anemia, as defined by the World Health Organization criteria, were assessed in relation to mortality in the Cardiovascular Health

Study, a prospective cohort study with 11.2 years of follow-up of 5888 community-dwelling men and women 65 years or older, enrolled in 1989-1990 or 1992-1993 in 4 US communities.

RESULTS: A total of 1205 participants were in the lowest hemoglobin quintile (<13.7 g/dL for men; <12.6 g/dL for women), and 498 (8.5%) were anemic (<13 g/dL for men; <12 g/dL for women). A reverse J-shaped relationship with mortality was observed; age-, sex-, and race-adjusted hazard ratios (95% confidence interval [CI]) in the first and fifth quintiles, compared with the fourth quintile, were 1.42 (95% CI, 1.25-1.62) and 1.24 (95% CI, 1.09-1.42). After multivariate adjustment, these hazard ratios were 1.33 (95% CI, 1.15-1.54) and 1.17 (95% CI, 1.01-1.36). The demographic- and fully-adjusted hazard ratios of anemia for mortality were 1.57 (95% CI, 1.38-1.78) and 1.38 (95% CI, 1.19-1.54). Adjustment for causes and consequences of anemia (renal function, inflammation, or frailty) did not reduce associations.

CONCLUSIONS: Lower and higher hemoglobin concentrations and anemia by World Health Organization criteria were independently associated with increased mortality. The World Health Organization criteria did not identify risk as well as a lower hemoglobin value. Additional study is needed on the clinically valid definition for and causes of anemia in the elderly and on the increased mortality at the extremes of hemoglobin concentrations.

Comentaremos en conjunto 3 artículos publicados en el mismo número de la revista Archives of Internal Medicine (Oct 24, 2005), en relación con diversos aspectos de la anemia en población anciana, sus complicaciones y su pronóstico.

En el primero de ellos¹ se analiza de forma prospectiva 5888 pacientes mayores de 65 años seguidos a los largo de 11 años, estableciéndose la prevalencia de anemia y la relación de su presencia y severidad con la mortalidad, las enfermedades cardiovasculares y las enfermedades crónicas (EPOC, cáncer...).

Los autores definen anemia según los criterios de la OMS (Hb < 13 g/dl en hombres y < 12 g/dl en mujeres). La prevalencia de anemia fue del 7% en blancos y del 17,6% en negros. Tras 11,2 años, los niveles más bajos de Hb se asociaron con elevado riesgo de mortalidad.

Conviene resaltar en este punto que los niveles de Hb por sí mismos fueron más sensibles como marcadores de riesgo (mortalidad y patología) que los criterios de la OMS de anemia.

El nivel de Hb fue un factor de riesgo para mortalidad, independiente de otras variables asociadas (inflamación, función renal). A pesar de las limitaciones que conlleva un estudio observacional (participantes quizá no representativos de población anciana, imposibilidad de establecer relaciones causales...) en nuestra opinión este artículo apunta la necesidad de validar criterios de anemia relacionados con la edad.

El segundo de los artículos² pretende relacionar anemia, función renal y eritropoyetina en ancianos. Tras el análisis de 1005 pacientes mayores de 65 años, la conclusión es que para que exista anemia con eritropoyetina baja, es necesario que el aclaramiento de creatinina sea menor o igual a 30 ml /min. Existe cierta evidencia en contra de estos hallazgos:

- Otras series observaron asociaciones similares con aclaramiento de creatinina < 60 ml/min.
- La función endocrinológica no se correlaciona con la función excretora del riñón.
- En la diabetes mellitus, el grado de insuficiencia renal produce mayores déficits de eritropoyetina.

En el tercer artículo³ se intenta establecer relación entre el pronóstico de los pacientes con Insuficiencia Cardíaca y la presencia de anemia. Fueron estudiados 50.405 pacientes con insuficiencia cardíaca documentada y anemia no severa. Los resultados muestran que la anemia es un predictor independiente de reingreso, sin llegar a demostrar (quizás porque el seguimiento fue sólo de un año), que sea un marcador de mortalidad en la insuficiencia cardíaca.

El mensaje subyacente a los objetivos de estos artículos sobre la anemia en el anciano es la respuesta a la pregunta ¿La corrección farmacológica de la anemia (quizás con EPO) mejoraría la calidad de vida, prolongación de la vida, enlentecería la progresión de enfermedades y sería costo - beneficiosa?

Los artículos no responden a la pregunta pero abren interrogantes cuyas respuestas pueden mejorar en el futuro el pronóstico de muchos pacientes.

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