

Original article

Compliance with guidelines and predictors of mortality in hemodialysis. Learning from Serbia patients

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ABSTRACT

Objectives: The aims of the study were to determine the percentage of patients on regular hemodialysis (HD) in Serbia failing to meet KDOQI guidelines targets and find out factors associated with the risk of time to death and the association between guidelines adherence and patient outcome.

Methods: A cohort of 2153 patients on regular HD in 24 centers (55.7% of overall HD population) in Serbia were followed from January 2010 to December 2012. The percentage of patients failing to meet KDOQI guidelines targets of dialysis dose ($Kt/V > 1.2$), hemoglobin (>110 g/L), serum phosphorus (1.1–1.8 mmol/L), calcium (2.1–2.4 mmol/L) and iPTH (150–300 pg/mL) was determined. Cox proportional hazards analysis was used to select variables significantly associated with the risk of time to death.

Results: The patients were on regular HD for 5.3 ± 5.3 years, dialyzed 11.8 ± 1.9 h/week. $Kt/V < 1.2$ had 42.4% of patients, hemoglobin <110 g/L had 66.1%, s-phosphorus <1.1 mmol/L had 21.7% and >1.8 mmol/L 28.6%, s-calcium <2.1 mmol/L had 11.7% and >2.4 mmol/L 25.3%, iPTH <150 pg/mL had 40% and >300 pg/mL 39.7% of patients. Using Cox model (adjustment for patient age, gender, duration of HD treatment) age, duration of HD treatment, hemoglobin, iPTH and diabetic nephropathy were selected as significant independent predictors of time to death. When targets of five examined parameters were included in Cox model, target for KtV, hemoglobin and iPTH were found to be significant independent predictors of time to death.

Conclusion: Substantial proportion of patients examined failed to meet KDOQI guidelines targets. The relative risk of time to death was associated with being outside the targets for Kt/V, hemoglobin and iPTH.

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Cumplimiento de las guías y factores predictivos de la mortalidad en la hemodiálisis. Enseñanzas de la experiencia en pacientes de Serbia

RESUMEN

Objetivos: Los objetivos del estudio fueron determinar el porcentaje de pacientes en tratamiento de hemodiálisis (HD) regular de Serbia en los que no se alcanzaron los objetivos de la guía KDOQI y determinar los factores asociados al riesgo de tiempo hasta la muerte, así como la asociación entre el cumplimiento de la guía y los resultados clínicos.

Métodos: Se llevó a cabo un seguimiento de una cohorte de 2153 pacientes en HD regular de 24 centros de Serbia (un 55,7% de la población total en HD) entre enero de 2010 y diciembre de 2012. Se determinó el porcentaje de pacientes que no alcanzaron los objetivos establecidos en la guía KDOQI respecto a dosis de diálisis ($Kt/V > 1,2$), hemoglobina (>110 g/L), fósforo en suero (1,1-1,8 mmol/L), calcio (2,1-2,4 mmol/L) e iPTH (150-300 pg/mL). Se utilizó un modelo de riesgos proporcionales de Cox para identificar las variables con una asociación significativa con el riesgo de tiempo hasta la muerte.

Resultados: Los pacientes habían estado en HD regular durante un periodo de $5,3 \pm 5,3$ años, con un tiempo de diálisis de $11,8 \pm 1,9$ horas/semana. Se observaron valores de $Kt/V < 1,2$ en el 42,4% de los pacientes, hemoglobina <110 g/L en el 66,1%, fósforo en suero $<1,1$ mmol/L en el 21,7% y $>1,8$ mmol/L en el 28,6%, calcio en suero $<2,1$ mmol/L en el 11,7% y $>2,4$ mmol/L en el 25,3%, iPTH <150 pg/mL en el 40% y >300 pg/mL en el 39,7%. Con el empleo de un modelo de Cox (con ajuste respecto a edad del paciente, sexo y duración del tratamiento de HD) se seleccionaron las variables de edad, duración del tratamiento de HD, hemoglobina, iPTH y nefropatía diabética como factores predictivos independientes significativos del tiempo hasta la muerte. Al introducir los objetivos de los cinco parámetros examinados en un modelo de Cox, se observó que los objetivos de KtV, hemoglobina e iPTH eran factores predictivos independientes para el tiempo hasta la muerte.

Palabras clave:

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Objetivos de guía KDOQI

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