Hemodialysis Patients Overestimate Survival

Especially after 1 year, patients receiving hemodialysis tend to rate their chances of survival higher than their nephrologists do, reports a study in *JAMA Internal Medicine*.

Using medical records data and validated prognostic tools, the researchers identified 150 hemodialysis patients (out of a group of 207) with predicted 1-year mortality of at least 20 percent. The patients and their nephrologists were then interviewed regarding their expectations for survival. The patients’ and physicians’ perceptions of the prognosis and likelihood of transplantation were compared with each other and with actual survival.

The analysis included interviews with 62 of 80 eligible patients. Eighty-one percent of patients believed they had at least a 90 percent chance of being alive 1 year later. By contrast, nephrologists estimated that only 25 percent of patients stood a 90 percent chance of surviving for 1 year.

Just 6 percent of patients said they had less than a 50 percent chance of surviving for 5 years, whereas nephrologists rated the chances of 5-year survival at less than 40 percent for 56 percent of patients. Sixty-six percent of patients believed they were candidates for kidney transplantation, whereas nephrologists thought so for only 39 percent.

None of the patients reported discussing their estimated life expectancy with their nephrologists. Of patients who expected to survive for 1 year, only 44 percent said they would want life-extending treatments if it meant increased discomfort. Actual survival was 93 percent at 1 year but dropped sharply with longer follow-up times: to 79 percent at 17 months and 56 percent at 23 months.

The mortality risk for hemodialysis patients exceeds 20 percent per year, a risk similar to that for some types of cancer. Studies have shown that cancer patients overestimate their chances of survival.

The new study suggests that the same is true of hemodialysis patients. Although patients’ estimates of 1-year survival are accurate, their expectations of longer-term survival are much higher than their nephrologists’ predictions. The researchers call for “interventions to help providers communicate effectively with patients about prognosis” [Wachterman MW, et al. Relationship between the prognostic expectations of seriously ill patients undergoing hemodialysis and their nephrologists. *JAMA Intern Med* 2013; 173:1206–1214].

Kidney Stones May Increase Women’s CHD Risk

A history of kidney stones is associated with an increased risk of coronary heart disease (CHD) in women, but not in men, reports a study in the *Journal of the American Medical Association*.

The analysis included data on a combined group of more than 45,000 men and 196,000 women from three prospective follow-up studies of health care professionals, all initially free of CHD. A history of kidney stones was analyzed as a risk factor for CHD, defined as fatal or nonfatal myocardial infarction (MI) or coronary revascularization.

Overall, 8.1 percent of participants had a history of kidney stones. At follow-up times of up to 24 years in men and 18 years in women, there were nearly 17,000 incident cases of CHD.

A history of kidney stones was associated with a higher risk of CHD in women. The CHD incidence rate was 7.54 versus 5.14 per 100,000 in one cohort of female registered nurses and 144 versus 55 per 100,000 person-years in a second cohort. In multivariable analyses, the hazard ratios for CHD associated with kidney stones were 1.18 and 1.48, respectively.

For women, kidney stones were associated with the individual outcomes of fatal and nonfatal MI and revascularization. Men showed no association between kidney stones and CHD risk.

The prevalence of kidney stones appears to be increasing. Some previous studies have found an increased risk of MI among patients with a history of kidney stones.

The new analysis supports the association between kidney stones and CHD in women, although not in men. The authors discuss possible explanations, including cardiovascular risk factors, shared dietary risks, and deterioration of kidney function related to kidney stones. Further study will be needed to evaluate these mechanisms and to determine whether an association is truly sex specific [Ferraro PM, et al. History of kidney stones and the risk of coronary heart disease. *JAMA 2013*; 310:408–415].

Early Invasive Treatment for ACS Increases Risk of AKI

For patients with acute coronary syndrome (ACS), early catheterization may increase the risk of acute kidney injury (AKI) but is also associated with better long-term survival, concludes a study in the *British Medical Journal*.

Health data from Alberta were used to identify about 10,500 patients treated for non-ST elevation ACS between 2004 and 2009. Patients with AKI and control individuals free of AKI were stratified by baseline estimated GFR and then matched according to a propensity score for early invasive treatment—i.e., coronary catheterization within 2 days. Early invasive treatment was analyzed as a risk factor for AKI, kidney injury requiring dialysis, progression to ESRD, and death of any cause.

Overall, about 41 percent of patients underwent early invasive treatment. Compared with similar patients treated conservatively, the group receiving early invasive treatment had a modest but significant increase in AKI risk: 10.3 versus 8.7 percent, risk ratio 1.18. The rate of AKI patients requiring dialysis was low in both groups: 0.4 and 0.3 percent, respectively. At a median 2.5 years of follow-up, the rate of progression to ESRD was also similar between groups: 0.3 and 0.4 events per 100 person-years.

However, all-cause mortality was significantly lower in the group receiving early invasive treatment: 2.4 versus 3.4 events per 100 person-years, risk ratio 0.69. Analyses of patients with reduced kidney function at baseline and with the use of different definitions of early invasive treatment showed similar patterns.

When indicated, early invasive treatment for ACS improves long-term survival. The new study is one of the first to compare AKI risks and consequences in ACS patients undergoing early invasive versus conservative treatment.

The results show a small but significant increase in AKI risk with early invasive treatment. However, there was no difference in the rates of AKI requiring dialysis or progression to ESRD, whereas early invasive treatment was associated with improved survival. “[T]hese results suggest that invasive treatments should not be withheld solely because of concern they might increase the risk of kidney injury,” the researchers write [James MT, et al. Renal outcomes associated with improved survival. "[T]hese results suggest that invasive treatments should not be withheld solely because of concern they might increase the risk of kidney injury,” the researchers write [James MT, et al. Renal outcomes associated with improved survival. "[T]hese results suggest that invasive treatments should not be withheld solely because of concern they might increase the risk of kidney injury,” the researchers write [James MT, et al. Renal outcomes associated with improved survival. “”].

Androgen Deprivation Therapy Linked to AKI Risk

Men with prostate cancer undergoing androgen deprivation therapy (ADT) may be at increased risk for acute kidney injury (AKI), according to a report in the *Journal of the American Medical Association*.

British general practice and hospital databases were used to identify 10,250 men with newly diagnosed, nonmetastatic prostate cancer. Patients with incident AKI were matched with as many as 20 control individuals. The association between receipt of ADT—classified as gonadotropin-releasing hormone agonists, oral antiandrogens, combined androgen blockade, bilateral orchiectomy, estrogens, or a combination of these—and the occurrence of AKI was assessed.

A total of 232 incident cases of AKI occurred during a mean follow-up time of 4.1 years, for a rate of 5.5 cases per 1000 person-years. Current ADT users were at increased risk for AKI, compared with those who never received ADT: odds ratio (OR) 2.48. The difference in incidence associated with AKI was 4.43 per 1000 persons per year. With adjustment for all potential confounders, the OR was 2.68.

The ADT-associated increase in risk mainly reflected the use of combined androgen blockade with gonadotropin-releasing hormone agonists, oral antiandrogens, combined androgen blockade, bilateral orchiectomy, estrogens, or a combination of these—and the occurrence of AKI was assessed.

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