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Is Nephrologist Caseload

Related to Dialysis Mortality?

An interesting new study (Harley 2013) has raised the question as to whether mortality of dialysis patients may be higher when the caseload of their nephrologist is higher. The authors retrospectively reviewed a cohort of patients receiving dialysis through facilities of one for-profit provider in an urban area of California. They found in demographic characteristic–adjusted analyses that **each 50-patient increase in caseload was associated with a 2% increase in patient mortality risk** (hazard ratio, 1.02; 95% confidence interval, 1.00 to 1.04; P<0.001). Also, patients treated by nephrologists with the lowest patient mortality rates received higher dialysis doses, had longer sessions, and received more kidney transplants.

The study conclusions are limited by the fact that this was one population and the study lacked important details about severity of illness and other patient level factors that might be important in terms of mortality. Nevertheless, the study does raise an important question that should lead to further investigation.

The study comes on the heels of another study (Kawaguchi 2013) that linked mortality of dialysis patients to the amount of physician contact they had. That study, using data from the large international Dialysis Outcomes and Practice Patterns Study (DOPPS), found an **inverse correlation between the frequency of patient-doctor contact and all-cause mortality**. They **also** found that **each 5-minutes-shorter duration of patient-doctor contact was associated with a 5% higher risk for death**, on average, after adjusting for visit frequency and other covariates. There were also modest inverse associations between both patient-doctor contact frequency and duration with hospitalization but not with kidney transplantation.

While there have been many conditions that have linked physician (or center) experience, usually measured by volume of cases, to better outcomes, most of those have been surgical conditions. There have been fewer studies on caseload and mortality for medical conditions.

But we have seen “J-shaped” mortality curves in the past. At one time when we were looking a bariatric surgery mortality rates in New York State we found that mortality rates declined when a surgeon or center did between 50 and 100 cases. However, interestingly, there seemed to be an increase in mortality once the 250 case level was reached. We were unable to tell at that time whether that meant the surgeons and centers

had become too busy or simply that, because of their experience, they were getting more complex cases. We suspected the latter. We don't know whether that observation has held up over the years or not.

Given the complexities of dealing with all the comorbidities in dialysis patients it would not be at all surprising that more patient-physician contact might be associated with better outcomes. But at this point, the observations in these two studies are merely hypothesis-generating and merit further prospective studies.

References:

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