PRESS RELEASE

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HIGHER KIDNEY FUNCTION AT DIALYSIS INITIATION LINKED WITH GREATER RISK OF DEATH IN CHILDREN

Delaying dialysis may benefit asymptomatic children.

Highlights

- In an analysis of information on children with kidney failure who began dialysis in the United States between 1995 and 2015, the risk of death was 1.36 times higher among children with higher kidney function at dialysis initiation.
- The risk of death was even greater for children with higher kidney function who initiated treatment with hemodialysis rather than peritoneal dialysis.
- In more recent years, children have been started on dialysis with higher kidney function.

Washington, DC (July 18, 2019) — A recent analysis of U.S. data over 2 decades indicates that children with kidney failure are being started on dialysis at higher levels of kidney function. Initiating dialysis at a higher level of kidney function was linked to lower patient survival, however. The findings, which appear in an upcoming issue of *JASN*, suggest that asymptomatic children with kidney failure may benefit from delaying dialysis.

The optimal treatment for children with chronic kidney failure is kidney transplantation, but most children are treated with dialysis prior to receiving a kidney transplant for various reasons, including to address electrolyte problems, remove excess fluid in the body, and alleviate excessive fatigue. It's unclear whether the timing of dialysis initiation affects patients' long-term health, however.

To investigate, a team led by Elaine Ku, MD, MAS and Erica Winnicki, MD (University of California, San Francisco) analyzed information on children who began dialysis in the United States between 1995 and 2015. The researchers examined patients' level of kidney function at the time of dialysis initiation; they defined higher kidney function as an estimated glomerular filtration rate above 10 ml/min/1.73m^2 and lower kidney function as 10 ml/min/1.73m^2 or lower. (Kidney failure is defined as an estimated glomerular filtration rate below 15 ml/min/1.73m^2).

Of 15,170 children, 4327 (29%) had higher kidney function at dialysis initiation. The risk of death was 1.36 times higher among children with higher kidney function at dialysis initiation. The risk of death was even greater for children with higher kidney function who initiated treatment with hemodialysis rather than peritoneal dialysis.

“We also found that over a 20-year period, children are being started on dialysis with higher kidney function,” said Dr. Winnicki. “Understanding why children are being started on dialysis at higher kidney function is important, as concerted efforts to delay dialysis initiation in asymptomatic children could potentially be an avenue for improvement in survival based on these observational findings. In addition, delaying dialysis initiation could allow for more time for living donors to undergo workup for kidney transplantation and shorten the time that children would need to spend on dialysis.”

An accompanying editorial noted that increasing rates of children starting dialysis with an estimated glomerular filtration rate above 10 ml/min/1.73m^2 over the past 2 decades are concerning given the absence of any benefit. “The direct, immediate, and incontrovertible deleterious financial, psychosocial, and physical impacts of dialysis are experienced on a daily basis by clinicians, children, and their families,” the authors wrote.

Study co-authors include Kirsten Johansen, MD, Michael Cabana, MD, Bradley Warady, MD, Charles McCulloch, PhD, and Barbara Grimes PhD, MS.

Disclosures: The authors reported no financial disclosures.

The article, entitled “Higher Estimated Glomerular Filtration Rate at Dialysis Initiation Is Not Associated with a Survival Benefit in Children,” will appear online at http://jasn.asnjournals.org/ on July 18, 2019, doi: 10.1681/ASN.2018111130.

The article, entitled “Time’s Up! Start Dialysis Later in Children,” will appear online at http://jasn.asnjournals.org/ on July 18, 2019.

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