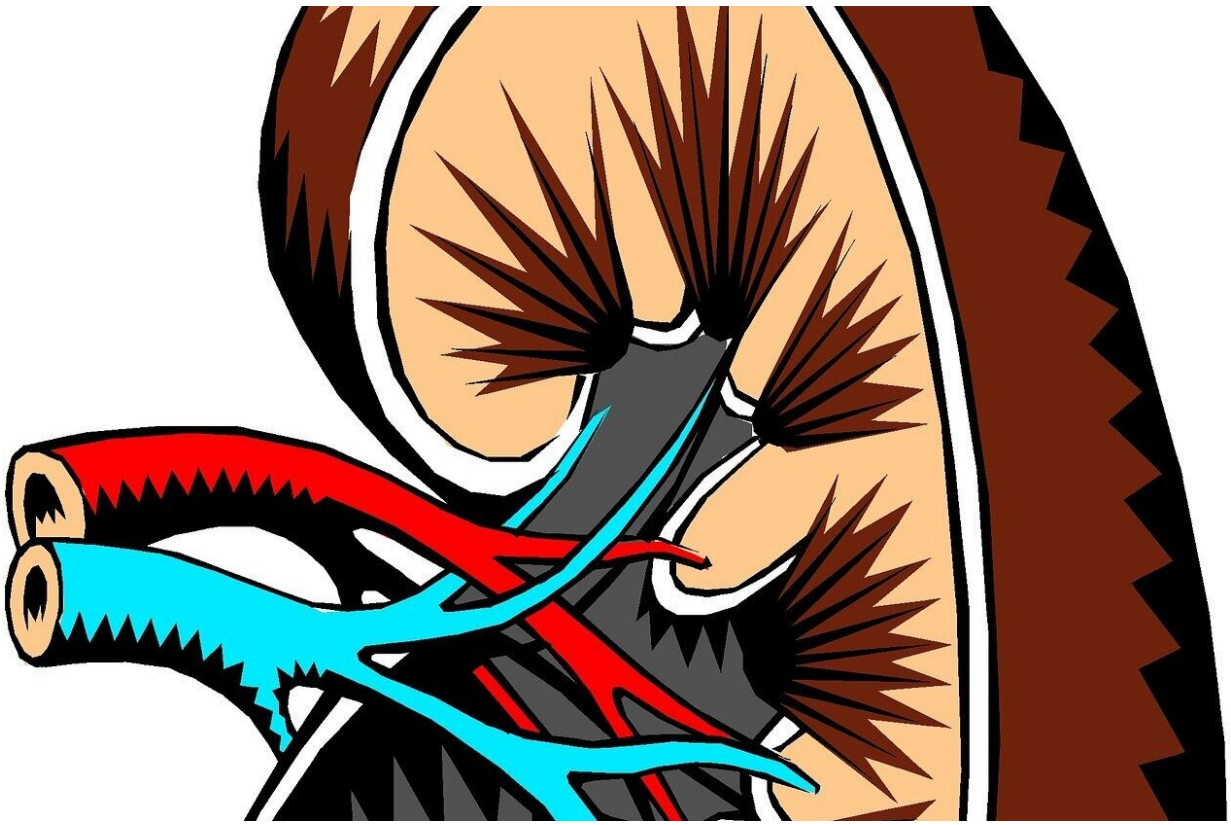
Those with kidney failure due to sickle cell disease wait longer for transplants, have higher mortality

November 6 2023



Credit: Pixabay/CC0 Public Domain

Children and young adults with kidney failure due to sickle cell disease (SCD) wait longer for a kidney transplant and have significantly higher

mortality when compared to children and young adults with kidney failure not caused by SCD, according to research published by Le Bonheur nephrologist Rima Zahr, DO. Research on the outcomes of children with kidney failure due to SCD has previously been limited.

The research is published in the journal *Pediatric Nephrology*.

"Our study aimed to compare outcomes of children with kidney failure due to SCD with matched children with kidney failure not caused by SCD," said Zahr. "Children in the U.S. with SCD now have higher survival rates thanks to new interventions and therapies, but this means that mortality from chronic end-organ damage has increased."

The research hoped to expand the amount of information available on outcomes in the pediatric population with kidney failure due to SCD in order to build guidance for care teams for this population. This retrospective study looked at children and young adults with SCD kidney failure ages 21 years and younger. Data was used from the United States Renal Data System (USRDS) to review kidney failure outcomes.

A total of 97 children and young adults with SCD kidney failure were identified, and 96 were matched exactly with children and young adults with non-SCD kidney failure. Matches were made based on initial kidney failure, year of service, age, sex, race and ethnicity. When comparing these two groups, the mean survival time after kidney failure with SCD was significantly shorter at 8.4 years compared to 14 years in the non-SCD kidney failure group. Children and young adults with SCD kidney failure also had a longer time to kidney transplant with a mean of 12.1 years compared to 7.3 years in the non-SCD kidney failure group.

"The results of our study highlight the disparities in health outcomes and access to transplants for children with kidney failure from SCD. Further research is needed to better understand why these disparities exist and

how we can address their causes," said Zahr.

Recent guidelines from the American Society of Hematology and results of adult studies have suggested that early referral for kidney transplant is associated with a decrease in mortality among those with kidney failure as a result of SCD, says Zahr. The results of this study show that identifying the barriers to kidney transplant in children and young adults with SCD kidney failure is key to improving their outcomes.

"In the immediate future, nephrology centers can start to work toward improving access to transplantation and establish sickle-cell specific transplant protocols to improve post-transplant survival," said Zahr. "Equitable access to transplantation may mitigate the decreased survival seen in this study."

More information: Rima S. Zahr et al, Kidney failure outcomes in children and young adults with sickle cell disease in the United States Renal Data System, *Pediatric Nephrology* (2023). DOI: 10.1007/s00467-023-06136-0

Provided by Le Bonheur Children's Hospital