Kidney Stones in Pregnancy Tied to Preterm Birth

BY BETSY BATES
Los Angeles Bureau

ANAHEIM, CALIF. — Women admitted to the hospital for nephrolithiasis in pregnancy have a nearly 80% elevated risk of preterm delivery, according to a retrospective cohort study of more than 2,000 cases in Washington State over 16 years.

The finding, announced at the annual meeting of the American Urological Association, may prompt more definitive treatment of small, asymptomatic kidney stones in women of childbearing age, especially those planning pregnancy.

Small case series dating back to the 1980s have raised the possibility that kidney stones during pregnancy may have an impact on birth outcomes, but the study conducted at the University of Washington in Seattle is believed to be the first large-scale attempt to track cases to delivery.

About 10% of women who were admitted for nephrolithiasis at any point in their pregnancies gave birth early, compared with 6.4% of the control women.

Dr. Mia A. Swartz and associates in the department of urology used birth certificate data and hospital discharge records to link peripartum records of 2,239 women who had been admitted to hospitals within the previous 9 months with a diagnosis of nephrolithiasis. These records were matched in a 3:1 ratio with 6,729 women of the same age who gave birth the same years.

The incidence of nephrolithiasis requiring hospital admission in pregnant women was 0.17%. The diagnosis was more frequently seen in white women, those with hypertension, and those with renal disease. Nearly 26% received at least one procedure for nephrolithiasis during hospitalization—most frequently, ureteral stents.

Women hospitalized with nephrolithiasis were significantly more likely to have a diagnosis of pyelonephritis at delivery. However, when investigators statistically controlled for the presence of pyelonephritis, relative risk of delivery at or before 37 weeks remained 1.79 (1.51-2.13).

About 10% of women admitted for kidney stones at any point in pregnancy gave birth early, compared with 6.4% of control women, a highly statistically significant difference.

Neither the trimester during which the nephrolithiasis admission occurred, nor the treatment procedure administered, influenced the results.

Use of tocolytics was highly correlated with preterm birth in the nephrolithiasis cohort, suggesting that the finding represents true preterm labor, rather than induction of early labor to permit treatment of symptomatic kidney stones, Dr. Swartz said during her podium presentation.

The database study captured only women who delivered a live infant after a hospital admission for nephrolithiasis, missing those treated on an outpatient basis and any who miscarried early in pregnancy, she noted. Further, "it was underpowered to detect rare outcomes, such as infant death."

Dr. Swartz said that while a large, prospective study would be useful, the findings have "important implications."

"I believe it provides a basis for counseling women with nephrolithiasis during pregnancy and may prompt definitive management or treatment of small, asymptomatic stones in women planning pregnancy," she said.

An audience member questioned that conclusion, saying many young women have small, asymptomatic stones that may not require treatment, "even if they are recurrent stone formers."

The session moderator, Dr. John D. Denstedt, interjected that his institution takes "a little more proactive approach" that appears to be justified based on the new University of Washington findings.

"We get into a full discussion with these patients with asymptomatic … stones and what the implications would be if the stone would become symptomatic in pregnancy," said Dr. Denstedt, professor and chief of surgery at the University of Western Ontario in London.

The shock wave machine is not an option during pregnancy, he said. As a result, many such patients opt for shock wave lithotripsy in advance of becoming pregnant, Dr. Denstedt added. ■