Anesthesia Before Age 3 May Raise Risk of Learning Delays: Study

Research found even one exposure is associated with language deficits by age 10

By Denise Mann

MONDAY, Aug. 20 (HealthDay News) -- Children younger than 3 who have even one surgical procedure requiring general anesthesia may be more likely to have deficits in language and abstract reasoning at age 10, a new study suggests.

Australian researchers gave neuropsychological tests to more than 2,600 children; a little more than 300 were exposed to anesthesia before the age of 3 and nearly 2,300 were not. The tests measured language, cognitive function, motor skills and behavior at age 10. Previous studies have relied on parent or teacher assessments, standardized tests and school grades to assess learning delays in children exposed to anesthesia.

"Children who were exposed to anesthesia had lower scores in language and abstract reasoning at age 10," said study author Dr. Caleb Ing, a pediatric anesthesiologist at Columbia University College of Physicians and Surgeons in New York City. Even a single exposure was associated with an increased risk of such deficits, the study showed.

Research in baby rodents has shown that anesthesia interferes with brain development, but it is too early to say how or even if anesthesia affects a child's brain. The new study was observational, so it is impossible to tell whether these deficits were caused by the anesthesia, the actual surgery or even the underlying reason for the procedure. The findings appear online Aug. 20 and in the September print issue of the journal Pediatrics.

Many parents are overwhelmed with fear when their child needs surgery, but these study results are no reason to delay potentially lifesaving surgical or diagnostic procedures, Ing noted.

"There are risks associated with avoiding or delaying procedures," he said. "Talk to the surgeon and pediatrician to see if it is best to proceed. If your child needs surgery involving general anesthesia, it is best to choose an anesthesiologist who routinely treats children."

Dr. Cheryl Gooden, a pediatric anesthesiologist at Mount Sinai School of Medicine in New York City, agreed. She said she routinely counsels parents about the risks associated with anesthesia, but potential learning delays are not part of this discussion unless the parent brings it up -- and they won't be in the near future either.

"This study still leaves a lot of unanswered questions," Gooden said. "We still have to prove that the anesthetic exposure is the potential or only causative agent leading to these neurodevelopmental problems. The evidence isn't there yet."