Study Finds That Less General Anesthesia Better For Obese Kids

PRNewswire/USNewswire - A study presented at the American Society of Anesthesiology's 2011 meeting found that obese children required much smaller doses of the anesthetic propofol than non-obese children to bring about a safe level of unconsciousness. Since the commonly used drug propofol can cause low blood pressure, prolonged sleepiness and decreased breathing, the results of this study could help anesthesiologists safely treat a common, but often misunderstood, type of surgical patient.

"Little information is available to assist anesthesiologists in deciding the right amount of medication to give to an obese child," said Olutoyin A. Olutoye, M.D., anesthesiologist at Texas Children's Hospital and lead author of the study. "Companies making these medications do not specifically study medication effects in this group of children before releasing a drug for use."

It is important for anesthesiologists to decide whether anesthetic drug doses should be based on a child's actual weight or lean body weight. In obese children, 75 percent of excess body weight consists of fat tissue, which alters drug distribution. "It is known that obese adults often need a smaller dose of propofol than normal weight adults, but a correlation to children is not guaranteed since adults and kids handle medications differently," said Dr. Olutoye, an associate professor of anesthesiology and pediatrics at Baylor College of Medicine.

After measuring each studied child's response 20 seconds after receiving propofol, it was determined that obese children needed 2 mg/kg of propofol based on actual body weight, to bring about unconsciousness at the beginning of surgery, compared to normal weight children who needed 50-60 percent more propofol (3.2mg/kg). "These study findings mean that when providing care for obese children with propofol, 95 percent of children will likely need only a smaller dose of propofol to initiate anesthesia for surgical procedures," said Dr. Olutoye. "This is important as propofol may cause low blood pressure, an effect that can be worsened if larger-than-needed amounts are given."

Dr. Olutoye stated that further pediatric studies will be needed to learn if there are other differences in medication responses for obese and non-obese children in clinical practice.

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