Pharmacokinetics of Clindamycin in Children with Obesity



WHY WAS THIS STUDY NEEDED?

In the United States, 1 in 5 children have obesity. Health care providers consider children obese when they have excess body fat that can increase health risks. Although many children have obesity, providers have little information about how they process medications. Health care providers commonly use clindamycin to treat a variety of infections, including skin and bone infections. Because the body easily absorbs clindamycin into fat, a child's obesity status may affect the amount of the medicine they need to treat infections.

The Pediatric Trials Network (PTN) performed this study, called Safety and Pharmacokinetics of Clindamycin in Pediatric Subjects With BMI ≥ 85th Percentile, to learn how children with obesity process clindamycin compared to children without obesity.

WHAT KIND OF STUDY WAS THIS?

This was a pharmacokinetic study to learn how children with obesity process clindamycin. Pharmacokinetics is the study of how our bodies process medicines. Understanding pharmacokinetics makes sure that children receive the right amounts of medicine.

Researchers looked at data from three studies where children with and without obesity received clindamycin as part of treatment for infections. The data were from 220 children in total; 76 children had obesity.

WHAT HAPPENED DURING THIS STUDY?

Health care providers gave the children clindamycin by mouth or into their veins (IV) as part of treatment for infections. Researchers tested the participants' blood to see how much clindamycin was in their bodies and how much remained over time.

WHAT WERE THE STUDY RESULTS?

Overall, children in the study did not have negative reactions related to clindamycin. Researchers found that giving clindamycin based on a child's total body weight is safe.

WHAT HAPPENED NEXT?

This was the first study to look at the effect of obesity on how children process clindamycin. The U.S. Food and Drug Administration (FDA) updated the label for clindamycin with instructions for prescribing it to children based on body weight. A medicine's label has the necessary information for health care providers to use.

Future studies of clindamycin and other antibiotics can help us learn more about how children with obesity process them.

WHO PERFORMED THIS STUDY?

The PTN performed this study. The PTN is a group of more than 100 research sites around the world that work to find the safest, most effective ways to use medicines and devices for infants and children. Children aren't just little adults. Their bodies are growing and changing, meaning that they process medicines and react to devices different from adults. The PTN makes sure doctors and families have the information they need to give children the best care.

The study was possible with support from the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

WHERE CAN I LEARN MORE ABOUT THIS STUDY?

A summary of the results of this study, as well as related publications and news, can be found at pediatrictrials.org.

** This summary was completed in October 2026. Newer information since this summary was written may exist. This summary includes results from one PTN study. Other studies may find different results.*

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