

DOSING AND SAFETY OF OFF-LABEL USE OF CAFFEINE CITRATE IN PREMATURE INFANTS



WHY WAS THIS STUDY NEEDED?

Almost all infants born at less than 29 weeks gestational age develop apnea of prematurity (AOP). Caffeine citrate is often used in the neonatal intensive care unit (NICU) to treat AOP. However, the drug label for caffeine citrate was last updated by the FDA in 1999. This label recommends short-term use of the drug for premature infants 28 – 33 weeks gestational age, but caffeine citrate is frequently used in infants born earlier. This study was needed to identify the association of caffeine citrate use and safety in infants less than 29 weeks gestational age and to bridge the gap in caffeine citrate's label recommendations and current clinical practice.

WHAT KIND OF STUDY WAS THIS?

This study examined the health records (from years 2010-2013) of 410 infants across four NICUs who were less than 29 weeks gestation and were exposed to caffeine citrate.

WHAT HAPPENED DURING THE STUDY?

The study team used statistical models to evaluate the association of caffeine citrate exposure and clinical events of interest. Among these events of interest were: Medical and surgical Necrotizing Enterocolitis (NEC), Grade II-IV intraventricular hemorrhage (IVH), Bronchopulmonary dysplasia (BPD), Seizure, Arrhythmia, PDA ligation, and Death.

410
PREMATURE
INFANTS



WHAT WERE THE STUDY RESULTS?

Caffeine citrate is routinely used in premature infants below the recommended age on the current FDA label. The most common clinical events included BPD, grade III-IV IVH, and PDA ligation. NEC, seizures, and death occurred in a small percentage of infants. However, these events were not found to be associated with dose or duration of caffeine citrate.

WHAT HAPPENS NEXT?

The results of this study were sent to the U.S. Food and Drug Administration (FDA), a government agency that approves drugs and devices used to treat patients. The findings were used to change this medicine's "label," or the printed information that is included along with the drug. This new label gives doctors the information they need to help them give the safest, most effective dose of this medicine to children.

WHERE CAN I LEARN MORE ABOUT THIS CLINICAL TRIAL?

A summary of the results for this trial can be found at pediatrictrials.org. If you have additional questions, please speak with the doctor or staff at your study site.

WHO CONDUCTED THE STUDY?

The study was conducted by the Pediatric Trials Network (PTN), a group of more than 100 research sites around the world that are working to find the safest and most effective doses of commonly used medicines for infants and children. Children aren't just little adults. Their bodies are growing and changing, meaning that they process medicines differently than adults do. The PTN works to make sure doctors and families have the information they need to give children the right dose: one that will get them well and keep them safe.

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* This study was conducted in 2019 and the summary was completed in 2022. This summary includes only results from one single study. Other studies may find different results.



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