



K54 Postmortem Pediatric Toxicology

*Robert A. Middleberg, PhD**, NMS Labs, 3701 Welsh Road, Willow Grove, PA 19090; *Nikolas P. Lemos, PhD*, University of California - San Francisco, 333 E Amado Road, Box 217, Palm Springs, CA 92262-6451; *Richard C. Harruff, MD, PhD**, King County MEO, 325 Ninth Avenue, Box 359792, Seattle, WA 98104; *Carl J. Schmidt, MD**, Wayne County MEO/University of Michigan, 1300 Warren, Detroit, MI 48207; and *Thomas G. Rosano, PhD**, Albany Medical Center, Pathology & Lab Medicine, 43 New Scotland Avenue, Albany, NY 12208

After attending this presentation, attendees will gain an appreciation for the challenges unique to toxicological findings in postmortem pediatric cases. Attendees will learn interpretive guidelines for pediatric cases involving forensic toxicology in both a general and case-specific sense.

This presentation will impact the forensic science community by further delineating the interpretive aspects of toxicological findings in the pediatric population.

In this 19th Annual Special Session within the Toxicology section, pediatric cases involving toxicological findings will be discussed. As a relative dearth of interpretive information exists involving toxicological findings in the pediatric population, this session is a forum to help elucidate and clarify such issues. The format is a short case presentation or issue-specific concern, including pharmaco-toxicokinetic data and other relevant ancillary information, followed by audience participation to provide interpretive clarity around case-specific impacts of the toxicological findings. This session, attended by various sections of the Academy, allows for various perspectives of case issues that lead to integrative consensus, or differing opinions, as to cause of death in children.

Four cases will be presented that highlight the difficulty in assessing the role of toxicants in each case or the lengths to which one must go, in some cases. Richard Harruff, MD, PhD, Carl Schmidt, MD, Thomas Rosano, PhD, and Robert Middleberg, PhD, will be reviewing cases from their years of experience as forensic pathologists and toxicologists, respectively, that highlight the issues and confounders in the pediatric population.

Dr. Harruff will discuss a case involving colchicine. This esoteric substance in relation to the pediatric population has a number of therapeutic uses based on being an inhibitor of mitosis, including one of the primary treatments for gouty arthritis. The case presentation will address potential means of exposure, post-exposure effects, and consequences of colchicine exposure in the pediatric population.

Dr. Schmidt will discuss the case of twins who were administered lidocaine-containing teething gel. The toxicokinetics and toxicodynamics of this commonly used local anesthetic and cardio-active substance will be reviewed in relation to adverse outcomes, especially in the pediatric population. The risks associated with use of teething gels, in particular, will be emphasized.

Dr. Rosano will present a case involving the death of an 18-month-old who came in contact with liquid nicotine intended to be used in electronic cigarettes. This case will highlight how the child came in contact with the material, surrounding factors leading to exposure, the signs and symptoms after exposure, and postmortem toxicological findings. Finally, the outcome of the investigations will be addressed.

Dr. Middleberg will discuss the difficulties associated with assigning manner of death in pediatric cases. Special emphasis will be placed on the issues surrounding child endangerment versus homicide and the difficulties associated with the distinction. An open discussion regarding whether there is ever a way to readily move from child endangerment to homicide in toxicologically related cases will take place.

Pediatric, Postmortem, Toxicology