



K46 Acute Albuterol Intoxication in Acute Asthma: A Case Report and Review of the Literature

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After attending this presentation, attendees will take into consideration albuterol intoxication as a potential cause of death in cases of lethal asthma with resultant consideration of accident as a manner of death.

Albuterol is one of the more common therapeutic agents encountered in the routine practice of forensic pathology. While generally viewed as a medication with little potential for toxicity and even less potential for lethality, there are circumstances in which the agent itself may reasonably be considered to be the primary cause of death. This paper will present the findings in a case of acute albuterol intoxication that occurred in the setting of an acute asthma attack in a young adult male. Toxicology testing revealed a level of albuterol higher than any previously reported in the literature. This paper will also review the literature of published intoxications, both lethal and non-lethal, with reported levels. The symptoms of albuterol toxicity and its potentially lethal side-effects (hypokalemia, prolonged Q-T interval) will be highlighted.

Methods: The medical records, emergency room chart, laboratory results and autopsy protocol with toxicology results were reviewed and are presented. The medical literature was searched via PubMed using the keywords albuterol, salbutamol, toxicity, poisoning, overdose, and asthma for articles relating to acute albuterol toxicity for the period 1971 to present. Bibliographies in standard toxicology texts and articles from the initial search were also reviewed for relevant citations.

Results: Only a few cases in the literature report levels of albuterol. Of all the cases identified, the vast majority were in children and most were associated with inadvertent over dosage. Only 24 total cases reported albuterol levels and all were in adolescents and adults admitted after suicide attempt. Reported levels ranged from 50 to 449 ng/mL. The only fatality in the 24 cases also involved concomitant theophylline toxicity. None of the 24 cases involved albuterol administered in the setting of an acute asthma attack. The level in this case (490 ng/mL) exceeds any previously reported level.

Conclusions: While albuterol remains one of the safest drugs used in clinical medicine today, its overuse may not always have benign consequences. This case report highlights the potential toxicity of albuterol. Medical examiners need to be aware of the potential for drug toxicity, even in the setting of an underlying lethal disease for which the drug is prescribed. Quantitation of levels may lead to better understanding of the subset of patients that die of self-administered therapeutic overdose in the setting of acute asthma and appropriate consideration of accidental death in some cases.

Asthma, Accidental Death, Albuterol Toxicity