

# A Retrospective Analysis of Antiretroviral Agents and Outcomes from a Regional Poison Center

Braden BR1, Bronstein AC1, Waldstein MM2

1Rocky Mountain Poison and Drug Center, Denver, CO, USA; 2Creighton University, Omaha, NE, USA

## Background

Chronic antiretroviral (ARV) toxicity is well characterized in patients receiving ARV agents in the treatment of Human Immunodeficiency Virus (HIV). 10% of ARV patients develop some form of toxicity. Lactic acidosis is the most clinical effect (CE). However, the frequency of toxicity from acute or acute on chronic overdose has not been significantly investigated.

## Hypothesis

Our hypothesis was that the pattern of acute and acute on chronic exposures differ from chronic exposures. The objective of this study was to quantify the number and clinical characteristics of ARV calls reported to a regional poison center by chronicity.

## Methods

We conducted a retrospective review of Rocky Mountain Poison Center call records between 1 January 2000 and 31 December 2012 by querying the National Poison Data System for single substance exposures to all single or combination ARV products. ARV product codes were identified via searching Poisindex® for these agents in the Micromedex product database. We tabulated all cases for number of exposures, intent (reason), clinical effects (signs and symptoms) and medical outcome. We used descriptive statistics to describe our findings. Our Institutional Review Board designated the study as exempt.

## Results

The NPDS query returned 17 call records: 9 Informational and 8 Exposures. The 9 information calls were for pill identification. Of the exposure calls, we had 6 intentional exposures and 2 unintentional exposures. The ages of the unintentional exposures were 18 months and 4 years. Of the six intentional exposures, 3 were female. The age range for intentional exposures were 60 – 16 years with a median age of 42. No patients with either intentional or unintentional exposures developed toxicity such as lactic acidosis, hepatotoxicity, or hypersensitivity reactions. One patient with intentional exposure to abacavir developed dehydration from diarrhea and required intravenous fluids in a health care facility. He did not develop any laboratory abnormalities or other findings consistent with toxicity.

	Exposure Calls	Clinical Effects	Toxicity
<b>Intentional</b>	6	abacavir-Diarrhea and Dehydration	None
<b>Unintentional</b>	2	None	None

## Discussion

There are 56,000 new cases of Human Immunodeficiency Virus (HIV) reported each year. In 2010 the CDC stated that there were more than 1.1 million people living with HIV in the United States of America. Our poison center covers four states and according to each state's department of health statistics, we serve an HIV population of 23,037.

Our analysis shows that acute or acute on chronic intentional ARV exposures were infrequently reported to our regional poison center. Of the intentional exposure calls that were reported, there was an equal proportion of men and women. None of the cases developed signs of toxicity, such as lactic acidosis, hepatotoxicity, or hypersensitivity reactions, from intentional. We had only one case in which a patient developed symptoms that required a visit to a health care facility. In order to determine whether toxicity from acute or acute on chronic intentional exposures does occur, a national investigation of poison center data should be undertaken.

## Conclusions

ARV drug acute or acute on chronic exposures reported to our poison center does not seem to cause toxicity.

