

Animal Toxicosis to Human Topical Dermatologic Products

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In the literature

Tater KC, Gwaltney-Brant S, Wismer T. Dermatological topical products used in the US population and their toxicity to dogs and cats. *Vet Dermatol.* 2019;30(6):474-e140.

FROM THE PAGE ...

This study aimed to describe the range of topical dermatologic medications used in human medicine in the United States and their potential toxicity to dogs and cats. Prescription data from 2011 to 2014 were collected from the National Health and Nutrition Examination Survey (NHANES) database, which provided a dataset of 10,170 individuals representative of 311,065,381 US residents. Results revealed that 1.33% ($\pm 0.21\%$) of the US population used prescription topical dermatologic medications; 50 different products were identified. This information was paired with a description of the epidemiology of dog and cat exposures to dermatologic products (both human and veterinary).

A data search from the ASPCA Animal Poison Control Center from 2001 to 2018 revealed 61,169 exposures (dogs, 46,289; cats, 14,880) to 177 veterinary and human topical dermatologic products. These exposures resulted in clinical signs in 37.5% (22,910) of cases. Human-labeled products were involved in 15.1% (3,463) of cases, 73.5% (2,545) of which involved a prescription topical dermatologic drug. Clinical outcomes were categorized as mild (ie, non-life-threatening, transient signs, minimal veterinary intervention), moderate (ie, more intense or longer duration of clinical signs, some veterinary intervention), major (ie, potentially life-threatening, intensive intervention, and/or long-term or permanent sequelae), and death (ie, found dead, died, or were euthanized as a result of toxicosis). Of the identified human-labeled products, 56% (28/50) showed medium to high risk for toxicity. Exposure to human-labeled products was primarily via oral exposure (94.2% of cases); dermal (ie, dermal only or dermal + oral) exposures accounted for 5.3% of cases. Clinical outcomes were mild in 68.2% of cases and moderate, major, or death in 31.2% of cases; of the latter cases, 44 active ingredients were involved in the toxicosis.

The data presented in this study are broad and extrapolated from 2 databases. One database allowed collection of representative human topical dermatologic agents used and potentially accessible to pets. In the NHANES database, humans were selected through complex, multistage, highly stratified cluster samples of households; these data allowed collection of the topical products used but may not be comprehensive or all-inclusive. Pet information was collected from the ASPCA Animal Poison Control Center, which limits the reports of pet cases, as these calls and data may alternatively be documented by company adverse-effect reporting call centers or other animal poison centers in the United States.

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** Most of the literature on toxicoses from human-labeled topical dermatologic products involves individual case reports. Thus, this study is a useful reference to evaluate possible adverse effects caused by topical dermatologic agents in dogs and cats, as the study attempts to aggregate a plethora of information, although broad, into a single source.
- 2** Clinicians should be aware of the risk for topical dermatologic human (and veterinary) products to result in moderate or major clinical patient outcomes.
- 3** Increased public awareness of the risks these products pose to pets may help decrease toxic exposures, particularly in regard to home storage practices.

Suggested Reading

Centers for Disease Control and Prevention. National health and nutrition examination survey. CDC website. <https://www.cdc.gov/nchs/nhanes/index.htm>. Updated June 30, 2020. Accessed July 15, 2020.

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