

Comprehensive Study of allergic deaths in US finds medications are main culprit

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Medications are the leading cause of allergy-related sudden deaths in the U.S., according to an analysis of death certificates from 1999 to 2010, conducted by researchers at Montefiore Medical Center and Albert Einstein College of Medicine of Yeshiva University. The study, published online today in the *Journal of Allergy and Clinical Immunology*, also found that the risk of fatal drug-induced allergic reactions was particularly high among older people and African-Americans and that such deaths increased significantly in the U.S. in recent years.

Anaphylaxis is the term used for a severe, potentially life-threatening allergic reaction that can occur within seconds or minutes following exposure to an allergen. Until now, data on trends in anaphylactic deaths—or even the number of yearly deaths from anaphylactic shock—has not been well-defined. One reason: unlike countries such as the UK, the U.S. doesn't maintain a national registry for anaphylaxis deaths.

"Anaphylaxis-related deaths in the U.S. have not been well understood in recent years," said Elina Jerschow, M.D., M.Sc. director, Drug Allergy Center, Allergy and Immunology Division of Medicine, Montefiore Medical Center, and assistant professor of medicine, Albert Einstein College, the lead author of the study. "We hope these findings will help in identifying specific risk factors and allow physicians to formulate preventative approaches."

Dr. Jerschow and colleagues analyzed [death certificates](#) from the U.S. National Mortality Database and found that medication-related anaphylaxis was the most common cause of [death](#) (58.8 percent). Additional causes identified included unspecified anaphylaxis (19.3 percent), venom (15.2 percent) and food (6.7 percent). Further analyses revealed fatal anaphylaxis due to medications, food and unspecified allergens was significantly associated with African American race and older age; and fatal anaphylaxis rates due to venom was more common in white, older men.

Of the 2,458 deaths identified between 1999-2010, culprit drugs were not specified in most of the cases (approximately 74 percent). However, among those with an identified culprit drug, nearly half were antibiotics, followed by radiocontrast agents used during diagnostic imaging procedures and chemotherapeutics that are used in treatment of cancer.

During the years studied, there was a significant increase in fatal drug anaphylaxis, from 0.27 per million in 1999-2001 to 0.51 per million in 2008-2010. The increase in medication-related anaphylaxis deaths likely relates to increased medication and radiocontrast use, enhanced diagnosis and coding changes.

"Anaphylaxis has been dubbed 'the latest allergy epidemic,'" said Dr. Jerschow. "The U.S. and Australia have some of the highest rates of severe anaphylaxis among developed countries. We hope these results bring increased awareness of the need for a better understanding of [anaphylaxis](#) deaths."

Provided by Albert Einstein College of Medicine

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