G10 Fatal Botox®-Induced Anaphylaxis? A Case Report

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After attending this presentation, attendees will learn about autopsy findings and laboratory diagnosis of anaphylactic reactions and the history and uses of Botox®.

This presentation will impact the forensic community and/or humanity by reporting on the first case of Botox® associated death; describing what kind of conditions Botox® is currently used for, and that it can possibly be a cause for anaphylaxis; and describing how to support the diagnosis of anaphylaxis.

Introduction: adverse drug reactions can occur with any therapeutic drug, with anaphylaxis being the most serious event. Botox (botulinum type A, Allergan Inc, Irvine, CA) is a relatively new drug that is FDAapproved for blepharospasm, strabismus, cervical dystonia and glabellar wrinkles. It is also used 'off label' for a variety of disorders such as chronic pain syndromes, hyperhidrosis, cosmesis, and achalasia. It has been touted as extremely safe and effective. To date, no deaths associated with Botox have been reported. We report the first case of anaphylaxis and death in a woman who received a mixture of Botox and lidocaine injections.

Case History: a 43-year-old woman who had chronic upper back pain presented at a rehabilitation clinic for a repeat set of Botox and lidocaine injections. Fourteen months previously, she had received her first set of Botox injections and obtained relief from her pain for several months. However, over the last few months, her back pain returned. A 5 cc solution of 1% Lidocaine and 100 units of Botox was made and 1 cc was injected into each of the 5 trigger points located in her upper back. Immediately following the last injection, she experienced a vasovagal reaction, lost consciousness and exhibited seizure activity. She was transported to the local hospital emergency room, where despite all efforts, she died.

Autopsy and Toxicologic Findings: the most significant autopsy finding was pulmonary edema and hemorrhage. The hypopharynx, larynx and trachea showed no evidence of edema or hemorrhage. Postmortem blood toxicology demonstrated a lidocaine level of 1.1 ug/mL and a methadone level of 0.12 mg/L. Premortem serum demonstrated a tryptase level of 37.6 ug/ml (reference range 0.4-10.9 ug/ml) and an IgE level of 6.7 IU/mL (reference range 0.0-100.0 IU/mL).

Discussion: anaphylaxis can occur quite suddenly, and is often a clinical diagnosis or a diagnosis of exclusion. It commonly occurs with food allergies and insect stings. An elevated serum tryptase level can support the diagnosis of anaphylaxis. Tryptase is a mast cell specific enzyme that is released in allergic reactions. This patient demonstrated a greatly elevated tryptase level. Although IgE was not significantly elevated, it does not exclude anaphylaxis, since some drugs may trigger mast cell degranulation directly. Because the mixture included lidocaine, the cause of the anaphylaxis cannot be definitively solely attributed to Botox, since rare anaphylactic reactions and death have been associated with lidocaine. The patient's previous injections of Botox may have been the time of sensitization.

Conclusion: both Botox and lidocaine have few reported adverse side effects. This is the first Botox associated anaphylactic reaction and death. Despite reports of safety and few complications, precautions should always be taken for an adverse reaction.

Botox®, Lidocaine, Anaphylaxis

 ** Presenting Author*