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We Need to Inform Covid-19 Vaccinating Clinics Concerning PEG Allergy

Daniel M. Gelfman, M.D., FASE, FACC, C FACP

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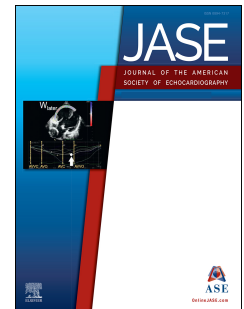
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Daniel M. Gelfman, M.D., FASE, FACC, FACP

Division of Clinical Affairs, Marian University College of Osteopathic Medicine, Indianapolis,
IN, USA

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Address for correspondence:

Daniel M. Gelfman, M.D., FASE, FACC, FACP
Clinical Professor Emeritus of Medicine
Marian University College of Osteopathic Medicine
3200 Cold Spring Road
Indianapolis, IN 46222
Phone : (317) 955-6000
Email : dgelfman@marian.edu

I would like to take this opportunity to thank the authors of the recent “Expert Consensus Statement from the American Society of Echocardiography on Hypersensitivity Reactions to Ultrasound Enhancing Agents in Patients with Allergy to Polyethylene Glycol”¹ and the editors of the Journal of the American Society of Echocardiography for writing and publishing this timely and important article. I also have an important request.

I have retired from the practice of adult cardiology. For the last several months, I have served as a volunteer COVID-19 vaccinator. I am certain the reader can guess where this story is going. I happened to read the above article discussing anaphylaxis from echocardiographic contrast agents being likely related to polyethylene glycol, also known as PEG. As it would happen, I was recently working as a vaccinator, administering the mRNA vaccine by Moderna. After initial screening, the first patient came to my vaccination station. I inquired if he was allergic to any medications. He replied affirmatively, “something odd, called Definity®”. He started to tell me what that was, as I am sure, most practitioners would be unaware. I replied that I knew it was an echocardiographic contrast agent. I inquired as to what was his reaction to Definity®. He said he had significant difficulty breathing, but this resolved with diphenhydramine, after which he was then given a second dose, which he fortunately tolerated.

About 10 days before this incident, I had read the above article. I quickly looked up the article on JASE online and confirmed the issue with PEG. I had previously learned that the mRNA vaccines were made with PEG when I was involved in a program on campus overseeing medical and nursing students administering COVID-19 vaccine. I informed this patient he could not

receive this vaccine or any mRNA vaccine including the one made by Pfizer as the agent he was allergic to was likely PEG which is in the mRNA vaccines.

This situation is the very definition of a “near miss.” I should mention that he was the first patient I have ever encountered who had a hypersensitivity reaction to an echocardiographic contrast agent in many years of practice. None the less, this could easily have been another case of anaphylaxis reported from a PEG reaction to a COVID-19 vaccine, especially given this would have been his third exposure. So, while this type of situation is quite rare, the likelihood that the vaccinating practitioner would be a practitioner (like a retired cardiologist) who would be aware that *both* an allergy to Definity® is due to an allergy to PEG and that the mRNA vaccines contain PEG (also not common knowledge) is exceptionally small. This information is not currently reasonably expected to be known by vaccinating practitioners.

My request is that the American Society of Echocardiography implore the CDC to inform all COVID-19 vaccinating clinics of this danger to avoid it from happening. While this situation is uncommon, it is potentially life threatening and avoidable.

Conflict of Interest: None

Bibliography:

1. Lindner JR, Belcik T, Main ML, Olyaei A, Porter TR, Senior R. Expert Consensus Statement from the American Society of Echocardiography on Hypersensitivity Reactions to Ultrasound Enhancing Agents in Patients with Allergy to Polyethylene Glycol. J Am Soc Echocardiogr. 2021;34(7):707-708. doi:10.1016/j.echo.2021.05.002