Pathology Researchers of Hearts of 2 Teens, Dead After Pfizer Vaccines, Hope for Guidance in Screening, Diagnosis, Therapy

COVID-19-vaccine Pfizer-BioNTech (x3/pixabay).

Myocarditis in adolescents has been diagnosed clinically following the administration of the second dose of an mRNA vaccine for coronavirus disease 2019 (COVID-19), according to an article released online ahead of the printed version in The Archives of Pathology & Laboratory Medicine.

Researchers concluded that a clinical and autopsy investigation discovered that myocardial injury seen in post-vaccine hearts of two dead teenage boys is different from typical myocarditis, and has an appearance most closely resembling a catecholamine-mediated stress (toxic) cardiomyopathy.

According to the researchers, understanding that these post-vaccine instances are different from typical myocarditis, and that cytokine storm has a known feedback loop with catecholamines, may

help guide future screening, diagnosis and therapy. Incidentally, diabetes, hypertension, and cardiovascular disease are **known risk factors of cytokine storms** in COVID-19 patients.

The scientific study was designed to examine the autopsy microscopic cardiac findings in adolescent deaths that occurred shortly following administration of the second Pfizer-BioNTech COVID-19 dose, and to determine whether the "myocarditis" described in these instances has the typical histopathology of myocarditis.

Research has shown that the **incidence of myocarditis, although low, has increased after the receipt of the BNT162b2 vaccine**, particularly after the second dose among young male recipients.

The two teenage boys died within the first week after receiving the second Pfizer-BioNTech COVID-19 dose. They were found dead in bed three and four days after receiving the second dose of the Pfizer-BioNTech COVID-19 vaccine. Both boys were pronounced dead at home without attempted resuscitation.

One of the boys complained of a headache and gastric upset but felt better by Post-Vaccine Day Three. He had no history of prior medical problems. In the past year he took prescribed amphetamine/dextroamphetamine during the school year for attention deficit hyperactivity disorder, but was not recently receiving the prescription. He had no prior SARS-COV-2 infection, and a post-mortem swab (RT-PCR assay) did not detect SARS-COV-2.

The other boy had no complaints, no prior health issues, and no known prior SARS-COV-2 infection, and a post-mortem swab (RT-PCR assay) did not detect SARS-COV-2.

Neither boy complained of fever, chest pain, palpitations, or dyspnea, and neither boy had rashes or lymphadenopathy. The autopsies were unremarkable except for obesity in one boy and the myocardial injury findings in both boys. There were unique cardiac findings in the first boy, which included myocardial fibrosis, and the second boy, which included cardiac hypertrophy.

Neither boy tested positive for drug abuse by expanded forensic toxicological testing, which was negative for medications and drugs of abuse.

> *Common catecholamines are epinephrine (adrenaline), norepinephrine (noradrenaline), and dopamine. Release of the hormones epinephrine and norepinephrine from the adrenal medulla of the adrenal glands are systematic components of the fight-or-flight response.*

The researchers confirmed that microscopic examination revealed features resembling a catecholamine-induced injury, not typical myocarditis pathology. Catecholamines increase heart rate, blood pressure, blood glucose levels, and stimulate the sympathetic nervous system.

Describing the myocardial injury in the post-vaccine hearts, the researchers **cited a study published in The Lancet Diabetes Endocrinology**, stating that these post-vaccine hearts had a similar histologic appearance as catecholamine-mediated stress cardiomyopathy and severe SARS-COV-2 infection, including "myocarditis" which is associated with cytokine release syndrome.

The pathology researchers James R. Gill, MD; Randy Tashjian, MD; and Emily Duncanson, MD. in this study have apparently opened the door to recognize the need to determine whether cytokine storm occurred from the vaccine, whether the vaccine caused damage that caused a fatal arrhythmia, and whether the vaccine caused the death of the boys. Additionally, if there is a confirmed vaccine-death causal relationship, there is need to confirm whether there is a connection of any risk factors that may identify persons at risk of catecholamine-related risk of death from vaccination.

SOURCES …

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