



Patient Name: **Keating, Joseph**
DOB: **3/7/1995**



Specimens
A Body

GENERAL INFORMATION

Coroner Number:

Date of Death: 11/12/21

Date of Autopsy: 11/15/21

Age: 26

Race: W

Sex: M

Length: 69 inches

Weight: 240 pounds

FINAL DIAGNOSIS

- I. Multifocal myocarditis involving the cardiac left ventricle and interventricular septum
 - A. Received Pfizer Covid booster shot and flu shot on 11/8/2021
 - B. Pulmonary congestion
 - C. Splenomegaly
 - D. Cerebral edema
- II. Right cardiac ventricle dilation
- III. Vein of Galen malformation, clinical
 - A. Multiple vessels of varying size with refractile foreign material with giant cell inflammatory response and calcification; large caliber vessel with thrombus

CAUSE OF DEATH: Multifocal myocarditis involving the left ventricle and septum

CONTRIBUTORY: Recent Pfizer Covid booster vaccine

MANNER OF DEATH: Natural

COMMENT: Myocarditis following administration of Pfizer Covid vaccine has been noted in male patients between the ages of 16 and 29 years, and most commonly presents 3 to 5 days following administration. Post Pfizer Covid vaccination myocarditis has been identified to cause left ventricular dysfunction.

Comment: report amended to correct case narrative.

This is a corrected result. Result was previously reported on 12/9/2021 at 1039 CST.

Amendment electronically signed by on 12/9/2021 at 1053

Electronically signed by on 12/9/2021 at 1039

CASE NARRATIVE

This 26-year-old white male was discovered sitting in his recliner at home. He has a history of a vein of Galen malformation with multiple therapies. He had received his third Pfizer Covid shot booster and flu shot on November 8, 2021. On morning of 11th, he complained of sore throat and fatigue. On morning of 12th, his apple watch

recorded tachycardia. Later in the day, he had complained of fatigue, muscle aches, and sore throat with a temperature of 100.2 F. His apple watch recorded no cardiac activity after 1959 hours. He did not respond to a text at 2100 hours. On November 13th he did not text his mother in the morning as he usually did and his family subsequently found him deceased in his recliner. The postmortem examination was conducted on 11-15-21 at 0915 hours.

This is a corrected result. Result was previously reported on 12/9/2021 at 1039 CST.

EVIDENCE OF INJURY

No signs of acute external or internal trauma noted.

EVIDENCE OF MEDICAL INTERVENTION

No signs of medical intervention or donation are noted.

EXTERNAL EXAMINATION

The body is received in a sealed black body bag. The body is that of a well-developed, well-nourished adult white male appearing approximately the recorded age clad in gray T-shirt, black shorts, two black socks, glasses, and red watch. The body condition is intact, the body temperature is cold to the touch, the extremities are in equal degree of rigor (1/3), and the livor is red-pink, posterior-fixed. The head hair is brown, the eyes are brown, and the teeth are natural. Facial stubble mustache and beard are noted. The head and neck are normally developed and without abnormality. The chest and abdomen are normally developed and without abnormality. The external genitalia are that of a circumcised adult male. The back is normally developed and without abnormalities. The upper and lower extremities are normally developed and without abnormality.

INTERNAL EXAMINATION

SEROSAL CAVITIES: The body is opened in the usual manner with a Y-shaped incision. The serosal surfaces are smooth and glistening. There is no unusual accumulation of blood or fluid.

CENTRAL NERVOUS SYSTEM: Scalp: Reflection of the scalp reveals no evidence of injury. Skull: There are no skull fractures. Brain: 1600 gms. The leptomeninges are transparent and without hemorrhages. There is a 4.5 x 2.5 x 2.0 cm grey pink calcified mass attached to the leptomeninges and sitting between the posterior corpus callosum, superiorly, and the cerebellum, inferiorly. The brain is symmetrical with a normal gyral pattern and there is moderate edema. The vessels of the circle of Willis are thin walled and without abnormality. The cranial nerves are intact and appear normal. The pituitary is grossly unremarkable. Sectioning of the cerebrum, cerebellum, and brainstem reveals no focal abnormalities.

NECK: There is no hemorrhage into the strap muscles. The hyoid bone and thyroid cartilage are intact. The larynx is clear.

CARDIOVASCULAR SYSTEM: Heart: 400 gms. The heart is of a normal shape and anatomic orientation. The pericardium and epicardial surface is smooth and glistening. The coronary arteries have a usual right dominant distribution with thin delicate walls. Opening the chambers reveals a dilated tricuspid valve (12.0 cm) and the right ventricle extending to the apex. The foramen ovale is not patent. The myocardium is red-brown and without focal abnormality including areas of obvious scarring. The thoracic and abdominal aorta is unremarkable.

RESPIRATORY SYSTEM: Lungs: Right: 780 gms., Left: 800 gms. The pleural surfaces are smooth and congested appearing. They are compressible. The major bronchi contain no foreign material. The lungs are normally formed and sectioning reveals congested appearing parenchyma with no focal abnormalities including areas of obvious consolidation or caseation. The pulmonary arteries are free of thrombi.

GASTROINTESTINAL SYSTEM: The GI tract is intact throughout its length. The esophagus is empty and the mucosa is without focal abnormality. The stomach contains food contents. The stomach mucosa is unremarkable.

The small bowel, colon and appendix are without focal abnormality. The pancreas is of usual size, shape, consistency and has a normal architecture on sectioning without parenchymal abnormalities.

HEPATOBIILIARY SYSTEM: Liver: 1500 gms. The liver capsule is smooth and intact. Sectioning reveals homogeneous soft red-brown parenchymal tissue without focal abnormality. The liver is free of significant fibrosis and no masses are identified. The gallbladder contains liquid green bile and the extrahepatic biliary system is intact.

GENITOURINARY SYSTEM: Kidneys: Right: 160 gms., Left: 160 gms. The kidneys are of a normal shape and anatomic orientation. The capsules are smooth and strip easily from the cortical surfaces. The cortical surfaces are smooth and glistening. Sectioning reveals normal cortical and medullary architecture without focal abnormality. The ureters are intact. The bladder contains no urine. The bladder mucosa is unremarkable. The prostate is unremarkable.

HEMATOPOIETIC SYSTEM: Spleen: 440 gms. The splenic capsule is smooth and glistening. Sectioning reveals congested red parenchyma free of calcifications, infiltrates, and infarcts.

ENDOCRINE: The thyroid gland is of the usual size and configuration. The adrenal glands are of the usual size, shape, consistency and have a normal architecture on sectioning.

MUSCULOSKELETAL SYSTEM: Muscle development was normal. No bone or joint abnormalities are noted.

ANCILLARY STUDIES

POSTMORTEM RADIOGRAPHS, CHEMISTRIES, GENETIC STUDIES, MICROBIOLOGY: Nasopharyngeal swab is negative. Femoral blood for carbon monoxide is within reference range.

MICROSCOPIC EXAM (10 glass slides reviewed)

Sections demonstrate varying degrees of autolysis and bacterial overgrowth.

Heart (slides A1-2): multifocal mixed inflammation involving left ventricle and septum with myocyte damage; generalized myocyte hypertrophy.

Lungs (slides A3-4): moderate to severe vascular congestion; one lobe in each lung has edema fluid within alveolar spaces.

Liver (slide A5): mild to moderate steatosis.

Pancreas (slide A5): no histopathologic findings.

Spleen (slide A5): congestion.

Kidneys (slide 6): no histopathologic findings.

Brain (slides A7-10): mass composed of multiple vessels of varying size with refractile foreign material with giant cell inflammatory response and calcification; large caliber vessel with thrombus.

Thyroid (slide A2): no histopathologic findings.

POSTMORTEM TOXICOLOGY: Femoral blood is positive for a therapeutic level of Diphenhydramine. Urine is negative for tested substances. See attached toxicology report for further details.

LOGISTICAL INFORMATION

Authorization: [REDACTED]

Identification: [REDACTED]

Persons present: [REDACTED]

Evidence: Photographs, DNA, blood from femoral vein and iliac vein, vitreous, urine, tissue

The facts stated herein are correct to the best of my knowledge and opinion at the time of report completion.

Scan on 12/2/2021 1415: [REDACTED]tox report_Page_1.tiff:



Testing Report
 Web: www.axisfortox.com
 Phone: (317) 759-4TOX

Laboratory Case Number: [REDACTED]

Client Account: 20132 / snfd01

Report To: [REDACTED]

Subject's Name: KEATING, JOSEPH

Agency Case #: [REDACTED]

Date of Death: 11/13/2021

Test Reason: Other

Investigator: [REDACTED]

Date Received: 11/16/2021

Date Reported: 12/01/2021

Laboratory Specimen No: 40975136 **Date Collected:** 11/15/2021 09:30

Container(s): 01:GRT Blood,FEMORAL **Test(s):** 70510 Comprehensive Drug Panel, Blood

Analyte Name	Qualitative Result	Quantitative Result	Reporting Limit	Reference Range	Units	Note
VOLATILES	Negative					
Methanol	Negative			Not Established		
Ethanol	Negative			Not Established		
Acetone	Negative			Not Established		
Isopropanol	Negative			Not Established		
AMPHETAMINES	Negative					
ANALGESICS	Negative					
ANESTHETICS	Negative					
ANTICHOLINERGICS	Negative					
ANTICONVULSANTS	Negative					
ANTIDEPRESSANTS	Negative					
ANTIDIABETICS	Negative					
ANTIFUNGALS	Negative					
ANTIHISTAMINES	POSITIVE					
Diphenhydramine	POSITIVE	63.3	50	30 - 300	ng/mL	
ANTIPSYCHOTICS	Negative					
BARBITURATES	Negative					
BENZODIAZEPINES	Negative					
CANNABINOIDS	Negative					
CARDIOVASCULARS	Negative					
GASTROINTESTINALS	Negative					
HALLUCINOGENS	Negative					

KEATING, JOSEPH
 Laboratory Case #: [REDACTED]
 Printed Date/Time: 12/01/2021, 09:23



Testing Report
Web: www.axisfortox.com
Phone: (317) 759-4TOX

Laboratory Specimen No: [REDACTED]

Continued..

Analyte Name	Qualitative Result	Quantitative Result	Reporting Limit	Reference Range	Units	Note
MISCELLANEOUS	Negative					
MUSCLE RELAXANTS	Negative					
OPIOID ANALGESICS	Negative					
SEDATIVE/HYPNOTICS	Negative					
STIMULANTS	POSITIVE					
Caffeine	POSITIVE					
	Analyte is qualitatively POSITIVE, but has not been confirmed by an alternate analytical method.					
UROLOGICALS	Negative					

Specimens will be kept for at least one year from the date of initial report.

KEATING, JOSEPH

Laboratory Case #: 3233917

Printed Date/Time: 12/01/2021, 09:23

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Testing Report
Web: www.axisfortox.com
Phone: (317) 759-4TOX

Laboratory Specimen No: [REDACTED]	Date Collected: 11/15/2021 09:45
Container(s): 01:YTT Urine, Random	Test(s): 80080 Basic Drugs of Abuse, Urine

Analyte Name	Qualitative Result	Quantitative Result	Reporting Limit	Reference Range	Units	Note
AMPHETAMINES	Negative					
Amphetamine	Negative					
Methamphetamine	Negative					
MDMA	Negative					
BENZODIAZEPINES	Negative					
7-Aminoclonazepam	Negative					
Alprazolam	Negative					
a-OH-Alprazolam	Negative					
Lorazepam	Negative					
Nordiazepam	Negative					
Oxazepam	Negative					
Temazepam	Negative					
HALLUCINOGENS	Negative					
Phencyclidine (PCP)	Negative					
MUSCLE RELAXANTS	Negative					
Meprobamate	Negative					
OPIOID ANALGESICS	Negative					
6-Monoacetylmorphine	Negative					
Buprenorphine	Negative					
Codeine	Negative					
EDDP	Negative					
Fentanyl	Negative					
Hydromorphone	Negative					
Hydrocodone	Negative					
Methadone	Negative					
Morphine	Negative					
Norfentanyl	Negative					
Norbuprenorphine	Negative					
O-Desmethyltramadol	Negative					
Oxycodone	Negative					
Oxymorphone	Negative					
Tramadol	Negative					

KEATING, JOSEPH

Laboratory Case #: [REDACTED]

Printed Date/Time: 12/01/2021, 09:23

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Testing Report
 Web: www.axisfortox.com
 Phone: (317) 759-4TOX

Laboratory Specimen No: [REDACTED]

Continued..

Analyte Name	Qualitative Result	Quantitative Result	Reporting Limit	Reference Range	Units	Note
STIMULANTS	Negative					
Benzoylcegonine	Negative					

KEATING, JOSEPH

Laboratory Case #: [REDACTED]

Printed Date/Time: 12/01/2021, 09:23

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Testing Report
Web: www.axisfortox.com
Phone: (317) 759-4TOX

Laboratory Specimen No: [REDACTED]	Date Collected: 11/15/2021 09:45
Container(s): 01:CTT Vitreous,EYE	Test(s): 49901 Volatiles Not Performed

Analyte Name	Qualitative Result	Quantitative Result	Reporting Limit	Reference Range	Units	Note
< Volatile Testing Not Performed >						

Due to negative blood, tissue, and/or urine volatile (Acetone, Ethanol, Isopropanol, and Methanol) results, volatile testing was not performed on the vitreous specimen.

KEATING, JOSEPH

Laboratory Case #: [REDACTED]

Printed Date/Time: 12/01/2021, 09:23



Testing Report
Web: www.axisfortox.com
Phone: (317) 759-4TOX

Laboratory Specimen No: [REDACTED]	Date Collected: 11/15/2021 09:30
Container(s): 01:GRT Blood,FEMORAL	Test(s): 49900 Not Tested

Analyte Name	Qualitative Result	Quantitative Result	Reporting Limit	Reference Range	Units	Note
< No Testing Performed	>					

The Specimen identified by the Laboratory Specimen Number has been handled and analyzed in accordance with all applicable requirements.

Laboratory Director

KEATING, JOSEPH

Case Reviewer

[REDACTED]

Laboratory Case [REDACTED]

[REDACTED]

Print Date/Time:12/01/2021, 09:23

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This individual may not have performed any of the analytical work.

Comments:

A previously reported component PROVISIONAL REPORT is no longer reported.

Autopsy - SF (Edited)

Authorizing Provider:

Ordering Provider:

Pathologist:

Autopsy (Edited)

Collected: 11/15/2021 0915

Received: 11/15/2021 0704

Verified On: 12/9/2021 1053

Pending Tests

Lab Only - Coroners Log

Resulting Labs

SHPC

CC Recipients

Related Orders

Carbon Monoxide (Final result)

ID:		Collected:	11/15/2021 0932
Type:	Blood	Received:	11/15/2021 0932
Source:	Blood	Verified On:	11/15/2021 1008

Component	Value	Ref. Range
Carbon Monoxide	0.2	0.0 - 1.5 %
Carbon Monoxide Smokers Normals: 1.5 - 5 %.		

Resulting Lab: SM

Comments:

Specimen clotted. Interpret result with caution.

Comprehensive Respiratory Pathogen Panel, NAT (Final result)

ID:		Collected:	11/15/2021 0932
Type:	Nasopharyngeal	Received:	11/15/2021 0934
Source:	Nasopharynx	Verified On:	11/15/2021 1212

Component	Value	Ref. Range
Adenovirus	Not Detected	Not Detected
Coronavirus HKU1	Not Detected	Not Detected
Coronavirus NL63	Not Detected	Not Detected
Coronavirus 229E	Not Detected	Not Detected
Coronavirus OC43	Not Detected	Not Detected
Human Metapneumovirus	Not Detected	Not Detected
Human Rhinovirus/Enterovirus	Not Detected	Not Detected
Influenza A	Not Detected	Not Detected
Influenza A/H1	Not Detected	Not Detected
Influenza A/H1-2009	Not Detected	Not Detected
Influenza A H3	Not Detected	Not Detected
Influenza B	Not Detected	Not Detected
Parainfluenza 1	Not Detected	Not Detected
Parainfluenza 2	Not Detected	Not Detected
Parainfluenza 3	Not Detected	Not Detected
Parainfluenza 4	Not Detected	Not Detected
RSV	Not Detected	Not Detected
SARS-CoV-2	Not Detected	Not Detected
Bordetella pertussis	Not Detected	Not Detected
Bordetella parapertussis	Not Detected	Not Detected
Chlamydomphila pneumoniae	Not Detected	Not Detected
Mycoplasma pneumoniae	Not Detected	Not Detected

Resulting Lab: XRL

Comments:

This test was performed by multiplexed nested PCR and melting curve analysis on the BioFire Torch/FilmArray instrument. Clinical testing for this panel is approved by the US Food and Drug Administration (FDA).