



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

June 14, 2022

Mary Pat McKay, MD, MPH
Chief Medical Officer

A. CRASH: ERA21FA333; Wadesboro, NC

Date: August 20, 2021

Injuries: 2 fatal

B. GROUP IDENTIFICATION

No group was formed for the medical evaluation in this accident.

C. DETAILS OF INVESTIGATION

1. Purpose

This investigation was performed to evaluate the pilot for medical conditions, the use of medications/illicit drugs, and the presence of toxins.

2. Methods

The FAA medical case review, autopsy reports, toxicology findings, and the investigator's preliminary report. Relevant regulation and medical literature were reviewed as appropriate.

Pilot

FAA Medical Case Review

According to the FAA medical case review, the 71 year old male pilot had reported 650 total flight hours to the FAA as of his last medical exam, dated 12/4/2019. At that time he was 73 inches tall and weighed 120 pounds. He had previously reported childhood asthma and high blood pressure to the FAA but did not report any current medications. No significant abnormalities were identified and he was issued a third class medical certificate limited by a requirement he have glasses for near vision.

Autopsy

According to the autopsy report issued by the Mecklenburg County Medical Examiner's Office, the cause of death was multiple blunt force injuries. The examination, particularly of the brain and heart, was limited by the extent of injury; of the available tissues, no significant natural disease was described.

Toxicology

Toxicology testing performed by the FAA's Forensic Sciences Laboratory identified ethanol at 0.08 gm/hg in muscle and 0.029 gm/hg in brain.¹ In addition N-propanol and N-butanol were found in muscle but not in brain. Meclizine was found in liver but not in muscle; finally, amlodipine was found in both liver and muscle tissues.

Substance Descriptions

Ethanol is primarily a social drug with a powerful central nervous system depressant. After ingestion, ethanol is quickly distributed throughout the body's tissues and fluids fairly uniformly. The distribution pattern parallels the water content and blood supply of each organ. Ethanol may also be produced in body tissues after death by microbial activity. N-propanol and N-butanol are additional types of alcohol that are formed in post mortem tissues by microbial action.

Meclizine is an antiemetic available over the counter and by prescription; it is often used to treat motion sickness. It carries these warnings about performance, "do not exceed recommended dosage; drowsiness may occur; avoid alcoholic drinks; alcohol, sedatives, and tranquilizers may increase drowsiness; be careful when driving a motor vehicle or operating machinery."²

Amlodipine is a blood pressure medication. It is not generally considered impairing.³

Pilot Rated Passenger

FAA Medical Case Review

According to the FAA medical case review, the 42 year old male pilot rated passenger had reported 160 total flight hours to the FAA as of his last medical exam, dated 13/20/2019. At that time, he was 74 inches tall and weighed 205 pounds. He had not reported any medical conditions or

¹ Gm/hg are given for volatiles identified in solid tissues but correlate directly with gm/dl found in body liquids such as blood.

² National Institutes of Health. US National Library of Medicine. DailyMed. Meclizine.
<https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=cf79ac74-017e-4fb4-85d3-4ea944080e89>
Accessed 6/14/2022.

³ National Institutes of Health. US National Library of Medicine. DailyMed. Amlodipine.
<https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=b52e2905-f906-4c46-bb24-2c7754c5d75b>
Accessed 6/14/2022.

use of any medications to the FAA. No significant abnormalities were identified and he was issued a third class medical certificate without limitations.

Autopsy

According to the autopsy report issued by the Mecklenburg County Medical Examiner's Office, the cause of death was multiple blunt force injuries. The examination, particularly of the brain and heart, was limited by the extent of injury; of the available tissues, no significant natural disease was described.

Toxicology

Toxicology testing performed by the FAA's Forensic Sciences Laboratory was negative for all tested substances.

D. SUMMARY OF MEDICAL FINDINGS

Pilot

The 71 year old male pilot He had previously reported childhood asthma and high blood pressure to the FAA but did not report any current medications.

According to the autopsy report issued by the Mecklenburg County Medical Examiner's Office, the cause of death was multiple blunt force injuries. The examination, particularly of the brain and heart, was limited by the extent of injury; of the available tissues, no significant natural disease was described.

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Pilot Rated Passenger

The 42 year old male pilot rated passenger not reported any medical conditions or use of any medications to the FAA.

According to the autopsy report issued by the Mecklenburg County Medical Examiner's Office, the cause of death was multiple blunt force injuries. The examination, particularly of the brain and heart, was limited by the extent of injury; of the available tissues, no significant natural disease was described.

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