

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



Medical Factual Memorandum for Record

August 19, 2024

A. CASE

NTSB ID: WPR23LA001
Location: Perma, Montana
Date: October 2, 2022

B. MEDICAL SPECIALIST

Specialist Turan Kayagil, MD, FACEP
National Transportation Safety Board
Washington, DC

C. DETAILS

1.0 Description of Review

For purposes of evaluating the pilot for potentially impairing substances and potentially impairing medical conditions, the above Medical Specialist reviewed the following sources of medical information, along with selected relevant regulation, medical literature, and investigator reports.

- Final Federal Aviation Administration (FAA) medical case review
- Selected post-crash hospital records, including air ambulance records
- Autopsy report
- Toxicology report

2.0 Summary of Medical Facts

The 68-year-old male pilot's last aviation medical examination was on September 9, 2016. At that time, he reported 438 total civilian flight hours. He reported a history of hypertension, for which he was qualified under Conditions

Aviation Medical Examiners Can Issue (CACI) criteria. He reported using the medications amlodipine and atenolol (prescription medications that may be used to help control blood pressure), atorvastatin (a prescription medication commonly used to help control cholesterol and reduce cardiovascular risk), and methocarbamol (a prescription medication that can be used to help relieve musculoskeletal discomfort).¹ No significant issues were identified, and he was issued a third-class medical certificate limited by a requirement to have available glasses for near vision. That medical certificate had expired prior to the accident date. FAA medical certification is not required for a pilot to exercise sport pilot privileges in a light sport aircraft if other required qualifications and operating restrictions are met.²

Following the crash, the pilot was extricated by a water rescue team, after which emergency medical services administered care until an air ambulance arrived. Upon the air ambulance crew assuming care, the pilot's heart rhythm was noted to be sinus bradycardia. He subsequently went into cardiac arrest (with asystole), prior to arriving to the hospital emergency department (ED). Resuscitative efforts were unsuccessful, and he was declared dead shortly after arriving to the ED.

The State of Montana Department of Justice Forensic Science Division performed the pilot's autopsy. According to the pilot's autopsy report, his cause of death was multiple blunt force injuries and his manner of death was accident. His autopsy identified coronary artery disease with calcified plaque causing 70-80% narrowing of his left anterior descending coronary artery and 80-90% narrowing of his right coronary artery. A 2.5 cm x 1 cm x 4 cm tan-gray scar of his posterior left ventricular heart muscle was present. The remainder of the autopsy, including visual examination of the heart, did not identify other significant natural disease.

The FAA Forensic Sciences Laboratory performed toxicological testing of specimens from the pilot.³ Amlodipine, metoprolol, atorvastatin, and ibuprofen were detected in femoral blood and urine. Clopidogrel was detected in urine.

Amlodipine is a prescription medication that can be used to treat high blood pressure and certain types of coronary artery disease. Metoprolol is a prescription medication that can be used as part of treatment for high blood pressure, certain arrhythmias, and certain types of heart failure. Atorvastatin is a prescription

¹ These medications are not generally considered impairing, except for methocarbamol, which can cause drowsiness and dizziness, and which typically carries a warning that it may impair mental and/or physical abilities required for performance of hazardous tasks, such as operating machinery or driving a motor vehicle. According to the FAA medical case review for this accident, methocarbamol is conditionally acceptable for FAA medical certification for short infrequent episodes with a 12-hour waiting period before flying.

² [14 Code of Federal Regulations Part 61 Subpart J.](#)

³ The FAA Forensic Sciences laboratory has the capability to test for around a thousand substances including toxins, prescription and over-the-counter medications, and illicit drugs.

medication that can help control cholesterol and lower cardiovascular risk. Ibuprofen is an anti-inflammatory medication that is available over the counter and is commonly used to treat pain and fever. Clopidogrel is a prescription antiplatelet medication that can be used to reduce cardiovascular risk in certain medical conditions, including ischemic heart disease, recent stroke or heart attack, and peripheral arterial disease. Amlodipine, metoprolol, atorvastatin, ibuprofen, and clopidogrel are not generally considered impairing.

Additionally, FAA toxicological testing detected ondansetron (a prescription anti-nausea medication) and ketamine (a dissociative anesthetic medication) in the pilot's femoral blood and urine, and the ketamine metabolite norketamine in his femoral blood. The pilot's post-accident treatment records documented that he was given ondansetron and ketamine during his medical care after the crash, before arriving to the hospital.

Submitted by:

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Medical Officer