



NTSB MEMORANDUM FOR RECORD

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National Transportation Safety Board

Date: June 8, 2020
Person Contacted: Dr. Michelle Watters (NTSB Medical Officer)
NTSB Accident Number: ERA20FA020

Narrative:

Dr. Watters performed a review of the medical factors pertaining to the investigation. The contents below are factual findings from her review:

Dr. Watters reviewed the Federal Aviation Administration (FAA) medical case review and the pilot's autopsy report and FAA Forensic Sciences laboratory toxicology report. Dr. Watters also had a telephone conversation with the medical examiner and reviewed relevant medical information.

According to the FAA initial medical case review, the 74-year-old male pilot held a second-class medical certificate with the limitation that he must wear corrective lenses and possess glasses for near/intermediate vision. At the time of the most recent exam (4/3/2019), the pilot reported 7,173 total hours of civil flight experience. The pilot was 71 inches tall and weighed 173 pounds. He reported taking ezetimibe and rosuvastatin for cholesterol reduction and finasteride and tamsulosin to treat an enlarged prostate. He reported hip and cataract surgeries.

The pilot had a remote history of a stroke caused by a blood clot due to a heart arrhythmia. Post-treatment, FAA granted an eligibility letter in 2011 based on favorable neurological and cardiac evaluations.

According to the Middlesex County Office of the Medical Examiner, North Brunswick, New Jersey autopsy report, the cause of the pilot's death was blunt impact trauma of head and manner of death was accident. The medical examiner listed the contributing causes of death as smoke inhalation and blunt impact trauma of torso; he reported soot in the pilot's upper and lower airways. The medical examiner discovered a cardiac monitoring device in the pilot's chest; according to the medical examiner, the readout by the manufacturer showed the pilot had an abnormal rhythm several minutes after the crash; prior to crashing, there was a normal heart rhythm.



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With the exception of atherosclerosis in the aorta and a tumor on the left kidney, there was no other significant natural disease identified.

The FAA Forensic Sciences Laboratory toxicology testing detected the non-impairing medications irbesartan, famotidine, and tamsulosin, used to treat high blood pressure, acid reflux, and an enlarged prostate, respectively, in the pilot's cardiac blood and urine.

They detected carboxyhemoglobin at 34% in cardiac blood. Toxicology testing performed for the Office of the Chief Medical Examiner detected carboxyhemoglobin at 43% in cardiac blood. Carbon monoxide (CO) is an odorless, colorless gas that is a byproduct of combustion, such as from an exhaust system or fire. Carboxyhemoglobin is formed when CO binds to hemoglobin, the protein in red blood cells that carries oxygen. The degree of carboxyhemoglobin formation is related to the concentration of CO and the duration of exposure.

The binding of CO impairs oxygen transport and use, and results in symptoms of exposure that can be mild and vague to impairing and incapacitating. Carboxyhemoglobin levels above 5% in nonsmokers and above 10% in smokers would suggest exposure to carbon monoxide.

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