



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

January 9, 2020

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Medical Officer

A. ACCIDENT: CEN19FA124; Kerrville, TX

On April 22, 2019, at 0851 central daylight time, a Beech 58 airplane, N501CE, impacted terrain during approach to Kerrville Municipal Airport (ERV), Kerrville, Texas. The pilot and five passengers were fatally injured, and the airplane was substantially damaged. The airplane was registered to and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a business flight. Day instrument meteorological conditions prevailed for the flight, which departed on an instrument flight rules flight plan from West Houston Airport (IWS), West Houston, Texas, at 0730.¹

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, toxicology findings, and investigator's reports were reviewed. The autopsy report was reviewed, and autopsy findings discussed with the Travis County Deputy Medical Examiner. Relevant regulation and medical literature were reviewed as appropriate.

¹ Summary taken from this accident's National Transportation Safety Board Aviation Accident Preliminary Report, originally published April 29, 2019.

3. Findings

a. FAA Medical Case Review

According to the FAA medical case review, the 65-year-old male pilot reported 5,425 total civil flight hours as of his last medical exam, dated October 10, 2018. At that time, he was 71 inches tall and weighed 187 pounds. He reported no active medical conditions to the Aviation Medical Examiner (AME), but did report the use of the medications rosuvastatin (commonly used to manage cholesterol), irbesartan/hydrochlorothiazide (a combination medication commonly used to treat high blood pressure), and nebivolol (also commonly used to treat high blood pressure).^{2,3,4} These drugs are not considered impairing. The pilot reported previous orthopedic and spinal surgeries, as well as previous LASIK eye surgery. The AME identified no significant issues and the pilot was issued a second class medical certificate limited by a requirement that he have available glasses for near vision.

b. Autopsy

According to the autopsy by the Travis County Medical Examiner's Office, the cause of death was blunt force injuries and the manner of death was accident. The autopsy found atherosclerotic arterial disease, including greater than 90% stenosis (narrowing) of the right coronary artery, greater than 90% stenosis of the left anterior descending coronary artery, 60-70% stenosis of the left main coronary artery, 40-50% stenosis of the left circumflex coronary artery, and 20-30% stenoses of the right and left coronary ostia (all percentages approximate). Visual (non-microscopic) examination of the heart found no scarring from old infarction and no coronary artery thrombosis. The autopsy found no other significant natural disease.

c. Toxicology

The Travis County Medical Examiner's Office detected only naproxen in the pilot's blood, and performed a vitreous chemistry which was unremarkable.⁵

² Crestor. National Institutes of Health United States National Library of Medicine DailyMed website. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=bb0f3b5e-4bc6-41c9-66b9-6257e2513512>. Accessed 12/26/2019.

³ Avalide. National Institutes of Health United States National Library of Medicine DailyMed website. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=0d91895e-c869-4b33-9b83-d55c1ad6317e>. Accessed 12/26/2019.

⁴ Bystolic. National Institutes of Health United States National Library of Medicine DailyMed website. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=8b8ad213-1dc8-454e-a524-075685c0e1a8>. Accessed 12/26/2019.

⁵ The Travis County Medical Examiner's Office tested femoral blood for carboxyhemoglobin (reporting threshold 10%), ethanol/volatiles, and the following specific substances: amphetamine, barbiturate, benzodiazepine, cocaine metabolite, fentanyl, opiate, oxycodone, cannabinoid. Chest blood was analyzed by gas chromatography/mass spectrometry, which is how naproxen was detected. Sodium, potassium, chloride, urea nitrogen, glucose, and creatinine concentrations were measured in vitreous.

The FAA's Forensic Sciences Laboratory detected naproxen, fexofenadine, azacyclonol, rosuvastatin, and irbesartan in cavity blood and urine.⁶

d. Descriptions of Detected Substances

Naproxen, sometimes marketed as Aleve or Naprosyn, is an over-the-counter or prescription anti-inflammatory medication commonly used for aches/pains and fever control, as well as arthritis and gout.⁷ Fexofenadine, sometimes marketed as Allegra, is an over-the-counter non-sedating antihistamine commonly used to relieve symptoms of seasonal and environmental allergies.⁸ Azacyclonol is a minor metabolite of fexofenadine.⁹ Rosuvastatin and irbesartan were both pilot-reported medications (see above). None of these drugs are considered impairing.

D. SUMMARY OF MEDICAL FINDINGS

The 65-year-old male pilot held a second class FAA medical certificate limited by a requirement that he have available glasses for near vision. At his most recent medical evaluation the pilot did not specifically report any active medical condition, but did report taking rosuvastatin, irbesartan/hydrochlorothiazide, and nebivolol, which are medications commonly used to manage cholesterol and high blood pressure. These drugs are not considered impairing.

The autopsy performed by the Travis County Medical Examiner's Office determined that the pilot's cause of death was blunt force injuries. The autopsy found atherosclerotic arterial disease, including greater than 90% stenosis of the right coronary artery, greater than 90% stenosis of the left anterior descending coronary artery, 60-70% stenosis of the left main coronary artery, 40-50% stenosis of the left circumflex coronary artery, and 20-30% stenoses of the right and left coronary ostia (all percentages approximate). The autopsy found no other significant natural disease.

The Travis County Medical Examiner's Office detected naproxen in the pilot's blood. The FAA's Forensic Sciences Laboratory detected naproxen, fexofenadine, azacyclonol, rosuvastatin, and irbesartan in blood and urine. These drugs are not considered impairing.

⁶ The FAA Forensic Sciences laboratory tests specimens for over 1,300 compounds including toxins, prescription and over-the-counter medications, and illicit drugs; information about these compounds can be found at the Civil Aerospace Medical Institute WebDrugs website (<http://jag.cami.jccbi.gov/toxicology/>).

⁷ Aleve. National Institutes of Health United States National Library of Medicine DailyMed website. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=00ef5b30-71d0-4cb4-84a3-48c67d1cea2a>. Accessed 12/26/2019.

⁸ Allegra Allergy. National Institutes of Health United States National Library of Medicine DailyMed website. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=81c1dcbb-28b3-4ad5-9f3d-9ccc16ddd173>. Accessed 12/26/2019.

⁹ Azacyclonol. Federal Aviation Administration Civil Aerospace Medical Institute WebDrugs website. <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=16>. Accessed 12/26/2019.