



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

MEDICAL FACTUAL REPORT

March 20, 2018

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Medical Officer

A. ACCIDENT: CEN16FA341 - Bentonville, Arkansas

On August 31, 2016, about 0930 central daylight time, a Beech model 36, N8283D, was destroyed when it impacted a hangar during an attempted takeoff from runway 18 at the Bentonville Municipal Airport (VBT), Bentonville, Arkansas. The pilot, who was the sole occupant of the airplane was fatally injured. The airplane was destroyed by impact forces and a postimpact explosion and fire. The aircraft was registered to and operated by the pilot under the provisions of 14 *Code of Federal Regulations* Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which was not on a flight plan. The flight was originating at the time of the accident and was destined for the Springdale Municipal Airport (ASG), Springdale, Arkansas.

B. GROUP IDENTIFICATION:

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

C. DETAILS OF INVESTIGATION

Purpose

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

Methods

The FAA medical case review, pilot's personal health care records, FAA Bioaeronautical Sciences Research Laboratory toxicology report, and autopsy report were reviewed.

FAA Medical Case Review

According to the FAA medical case review, the 70-year-old male pilot was 71 inches tall and weighed 226 pounds at the time of his most recent FAA medical certification exam, dated March 11, 2015. At that time, he reported 1,389 total flight hours. The pilot reported no medical conditions and no use of medications. The aviation medical examiner (AME) examination did not identify any significant medical issues and issued the pilot a third class medical certificate with a limitation requiring him to wear corrective lenses.

Autopsy

The Arkansas State Crime Laboratory Medical Examiner's autopsy report documented the cause of death was multiple blunt force injuries and the manner was accident. The heart was normal size, shape and configuration with mild patchy atherosclerosis without significant luminal obstruction. The autopsy did not describe evidence of ischemic heart disease. A pacemaker was found in the chest wall but was not interrogated. The report did not identify any other significant natural disease.

Toxicology

FAA Bioaeronautical Sciences Research Laboratory toxicology testing detected the blood pressure medications metoprolol and valsartan in the urine and blood. These medications are generally not considered impairing. Temazepam was detected in the urine at 7.204 ug/ml and heart blood at 0.071 ug/ml; its metabolite oxazepam was detected in the urine at 0.795 ug/ml but not in the heart blood.

Temazepam is a Schedule IV controlled substance of the benzodiazepine class. It is a sedative intended for the short-term treatment of insomnia; another common name for it is Restoril. The package information carries warnings including "...You may still feel drowsy the next day after taking [temazepam]. Do not drive or do other dangerous activities after taking [temazepam] until you feel fully awake."¹ Temazepam's therapeutic range is from about 0.2 to 1.1 ug/ml and its half-life ranges from about 3 to 13 hours in different individuals.²

Personal Medical History

The investigation obtained cardiology records ranging from July 2014 through August 10, 2016. His active medical conditions included chronic atrial fibrillation since 2012 treated with the anticoagulant rivaroxaban and the blood pressure and heart rate control medication metoprolol (both medications are generally not considered to be impairing). Additionally, he had elevated cholesterol was treated with the non-impairing cholesterol lowering medication atorvastatin; high blood pressure treated with the non-impairing blood pressure medications valsartan and hydrochlorothiazide and insomnia treated with the potentially impairing sedative temazepam (described above). Finally, he had episodes of slow heart rate treated with a pacemaker beginning in February 2016. According to a physician's assistant note dated August 10, 2016 the pilot had no symptoms from these conditions and felt good, he denied chest pain or pressure, shortness of breath, or near fainting. A physical examination that day did not find additional significant medical conditions.

D. SUMMARY OF MEDICAL FINDINGS

The 70-year-old male pilot had reported no medical conditions and no use of medications to the FAA.

The Arkansas State Crime Laboratory Medical Examiner's autopsy report documented the cause of death was multiple blunt force injuries and the manner was accident. The autopsy documented the presence of a pacemaker in the chest wall.

¹ National Library of Medicine (U.S.). 2018. *DailyMed*. Bethesda, MD. Restoril - temazepam capsule <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=bc56f7fd-1aaf-48ff-8aa7-d467e59e1015> Accessed 03/13/2018

² Baselt RC, Disposition of Toxic Drugs and Chemicals in Man, Tenth Edition, Copyright 2014, Biomedical Publications, Seal Beach, California

Toxicology testing detected the blood pressure medications metoprolol and valsartan in the urine and blood. The potentially impairing sedative temazepam was detected in the urine at 7.204 ug/ml and heart blood at 0.071 ug/ml; its metabolite oxazepam was detected in the urine at 0.795 ug/ml but not in the heart blood.

Personal medical records revealed a history of atrial fibrillation treated with the non-impairing anticoagulant rivaroxaban and the blood pressure/ rate control medication metoprolol. The pilot's high blood pressure and elevated cholesterol were treated with the non-impairing medications valsartan, hydrochlorothiazide and atorvastatin. Furthermore, he had insomnia treated with the sedative temazepam. Finally, following his most recent FAA examination he developed a slow heart rate that was controlled with a pacemaker in Feb 2016. An examination of the pilot by a physician's assistant 2 weeks before the accident documented the pilot felt well with no adverse symptoms from medications or his medical conditions.