



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

May 21, 2019

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Chief Medical Officer

A. ACCIDENT: ERA18FA064; Bonita Springs, FL

On January 22, 2018, about 1214 eastern standard time, a Van's Aircraft Inc. RV-12, N262WS, was destroyed when it collided with terrain near Bonita Springs, Florida. The sport pilot was fatally injured. The special light sport airplane was registered to a corporation and was operated by the pilot under the provisions of Title 14 Code of Federal Regulations part 91. Day, visual meteorological conditions prevailed, and no flight plan was filed for the personal flight. The flight originated at Page Field (FMY), Fort Myers, Florida about 1200 and was destined for Everglades Airpark (X01), Everglades City, Florida.

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, personal medical records, publicly available court information, and the investigator's reports were reviewed.

FAA Medical Case Review

According to the FAA medical case review, the 68 year old male pilot held only a sport pilot certificate and had never applied for nor held an FAA medical certificate. No other medical information is available from the FAA.

Autopsy

According to the autopsy performed by the State of Florida, District 21 Medical Examiner, the cause of death was multiple blunt force injuries and the manner of death was accident. The brain was not available for examination due to the extent of injury. The heart was enlarged and thickened. It weighed 430 grams and the left ventricular wall was 1.5 cm in thickness, while the septum and right ventricular wall were 1.2 and 0.4 cm thick. Average for a man of his size (about 198 pounds at autopsy) is 371 grams with a range of 281 to 489 grams and average wall thicknesses are 1.3, 1.3, and 0.3 cm respectively.¹ In addition, there was significant coronary artery disease with approximately 50 to 75% stenoses of both the left main and left anterior descending coronary arteries. The remainder of the cardiac exam was unremarkable.

Toxicology

Toxicology testing performed by the FAA's Bioaeronautical Sciences Research Laboratory identified atenolol, citalopram and its metabolite N-desmethylocitalopram, mirtazapine, and trazodone in cavity blood. In addition, all of these except atenolol were identified in urine as was naproxen. Atenolol was also identified in liver tissue.

[Atenolol is a blood pressure medication that may also be used to reduce the risk of recurrent heart attacks. Naproxen is an analgesic available over the counter or by prescription, often with the names Aleve and Naprosyn. Neither of these are considered impairing.

Citalopram is an antidepressant often sold with the name Celexa that carries a precaution for patients that it impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g., driving, operating heavy machinery).² However, it has not been shown to degrade performance in psychological testing experiments using healthy volunteers.³

Mirtazapine is another prescription antidepressant commonly marketed with the name Remeron. It is well known to cause somnolence in the majority of people using it and carries this precaution, "Mirtazapine may impair judgment, thinking and particularly, motor skills, because of its prominent sedative effect. The drowsiness associated with mirtazapine use

¹ Kitzman DW, Scholz DG, Hagen PT, Ilstrup DM, Edwards WD. Age-related changes in normal human hearts during the first 10 decades of life. Part II (Maturity): A quantitative anatomic study of 765 specimens from subjects 20 to 99 years old. Mayo Clinic Proc., 1988. 63(2): 137-46.

² National Institutes of Health. US National Library of Medicine. Citalopram. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=2632b547-2e13-447f-ac85-c774e437d6a8> Accessed 9/20/2018.

³ Paul MA, G.G., Love RJ, Lange M. SSRI effects on psychomotor performance: assessment of citalopram and escitalopram on normal subjects. Aviat Space Environ Med, 2007. 78(7): 693-7.

may impair a patient's ability to drive, use machines, or perform tasks that require alertness. Thus, patients should be cautioned about engaging in hazardous activities until they are reasonably certain that mirtazapine therapy does not adversely affect their ability to engage in such activities.”⁴

Trazodone is another antidepressant that is sedating enough that it is often prescribed as a sleep aid. It carries this information for prescribers, “Antidepressants may impair the mental and/or physical ability required for the performance of potentially hazardous tasks, such as operating an automobile or machinery; the patient should be cautioned accordingly. Trazodone hydrochloride may enhance the response to alcohol, barbiturates, and other central nervous system depressants.”⁵

Major depression itself is associated with significant cognitive degradation, particularly in executive functioning.⁶ The cognitive degradation may not improve even with remission of the depressed episode, and patients with severe disease are more significantly affected than those with fewer symptoms or episodes.^{7,8} This is why depression is a disqualifying condition for pilot medical certification. According to the Guide for Aviation Medical Examiners; an aviation medical examiner should not issue a medical certificate to a depressed pilot. The FAA will consider a special issuance of a medical certificate for depression after 6 months of treatment if the applicant is clinically stable on one of four approved medications.⁹]

Personal Medical Records

Records from the pilot's usual source of care for the period between January 2015 and the accident date were obtained and reviewed. The records document that the pilot had hypertension, high cholesterol, obstructive sleep apnea, neurogenic bladder, cataracts, peripheral neuropathy, depression, and post traumatic stress disorder. At the time of

⁴ National Institutes of Health. US National Library of Medicine. Mirtazapine. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=0039f505-7cd0-4d79-b5dd-bf2d172571a0> Accessed 9/20/2018.

⁵ National Institutes of Health. US National Library of Medicine. trazodone. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=a699724b-7412-479e-9894-4cf6ec454d8b> Accessed 9/20/2018.

⁶ Snyder HR. Major depressive disorder is associated with broad impairments on neuropsychological measures of executive function: A meta-analysis and review. Psychol Bull. 2013;139(1):81-132.

⁷ Nakano Y, Baba H, Maeshima H, Kitajima A, Sakai Y, Baba K, Suzuki T, Mimura M, Arai H. Executive dysfunction in medicated, remitted state of major depression. J Affect Disord. 2008;111(1):46-51.

⁸ Paelecke-Habermann Y, Pohl J, Lepow B. Attention and executive functions in remitted major depression patients. J Affect Disord. 2005;89(1-3):125-35

⁹ Federal Aviation Administration, Guide for Aviation Medical Examiners, Item 47. Psychiatric Conditions - Use of Antidepressant Medications. https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/app_process/exam_tech/item47/amd/antidepressants/ Accessed 5/24/2016.

his last annual exam (March 2017), he was prescribed atenolol and lisinopril to treat his blood pressure, simvastatin for his cholesterol, use of a continuous positive airway pressure (CPAP) machine for his sleep apnea, and citalopram and trazodone for his psychiatric disease.

Records indicate the pilot complained of worsening symptoms from PTSD including nightmares and intrusive thoughts during the end of 2016 and early 2017. This was apparently brought on by legal issues the pilot was concerned would result in incarceration in a Virginia prison. The underlying issue was the pilot had been discovered misrepresenting his military service and been outed on the internet by a group he considered “terrorists.” The pilot was facing charges for repeatedly breaking the conditions of a restraining order regarding threatening the wife of the individual who outed him.

Other Data

According to news reports, the pilot was apparently incarcerated in Virginia from September 2017 through most of January 2018. In addition, on December 27th, 2017, an approximately \$1.3 million judgment was made against him in a libel case.¹⁰

D. SUMMARY OF MEDICAL FINDINGS

The 68 year old male sport pilot had never applied for a FAA medical certificate. According to the autopsy performed by the State of Florida, District 21 Medical Examiner, the cause of death was multiple blunt force injuries and the manner of death was accident. The heart was enlarged and thickened and there was significant coronary artery disease with approximately 50 to 75% stenoses of both the left main and left anterior descending coronary arteries.

Toxicology testing performed by the FAA’s Bioaeronautical Sciences Research Laboratory identified atenolol, citalopram and its metabolite N-desmethylocitalopram, mirtazapine, and trazodone in cavity blood. In addition, all of these except atenolol were identified in urine as was naproxen. Atenolol was also identified in liver tissue.

According to personal medical records, the pilot had been diagnosed with hypertension, high cholesterol, obstructive sleep apnea, neurogenic bladder, cataracts, peripheral neuropathy, depression, and post traumatic stress disorder. As of March, 2017 he was prescribed atenolol and lisinopril to treat his blood pressure, simvastatin for his cholesterol, use of a continuous positive airway pressure (CPAP) machine for his sleep apnea, and citalopram and trazodone for his psychiatric disease.

¹⁰ The Florida Record. Sammon, J Fatal Bonita Springs plane crash could end bizarre harassment case. Published 1/31/2018. <https://flarecord.com/stories/511321613-fatal-bonita-springs-plane-crash-could-end-bizarre-harassment-case> Accessed 9/20/2018.