NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

MEDICAL FACTUAL REPORT

March 13, 2018

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Medical Officer

A. ACCIDENT: WPR16FA131 - Coeur d'Alene, Idaho

On June 25, 2016, at about 1200 Pacific daylight time, a Cessna A185F, N4585F, airplane was substantially damaged when it collided with terrain about 16 miles northeast of Coeur d'Alene, Idaho. The private pilot, sole occupant of the airplane, was fatally injured. The airplane was registered to and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed and no flight plan had been filed for the local flight. The pilot departed Felts Field Airport (SFF) Spokane, Washington, about 1126.

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 pilots for any medical conditions, the use of any medications/illicit drugs, and the presence of any toxins.

Methods

The FAA medical case review, pilot's personal health care provider summary, 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 73 inches tall and weighed 180 pounds at the time of his most recent FAA medical certification exam dated March 29, 2016. At that time, he reported 3,505 total flight hours. The pilot reported he had high blood pressure controlled with the prescription blood pressure medication losartan (this medication is generally not considered to be impairing.) Additionally, he reported a history of prostate cancer treated with surgery with no evidence of spread. The pilot reported no other medical conditions or medications and aviation medical examiner (AME) examination did not identify any other significant medical issues and documented

the pilot met criteria for conditions an AME could issue and issued the pilot a third class medical certificate with a limitation requiring him to wear corrective lenses.

Autopsy

The Spokane County Medical Examiner's autopsy report described multiple blunt force injuries and the Coeur d'Alene, Idaho coroner determined the cause of death was blunt force injuries to the head, chest, abdomen and extremities and the manner was accident. The autopsy did not identify any significant natural disease.

Toxicology

FAA Bioaeronautical Sciences Research Laboratory toxicology testing detected bupropion in liver and cavity blood; tramadol at 0.943 ug/g in liver, at 0.476 ug/g in lung and at 0.102 ug/ml in cavity blood; and zolpidem at 0.065 ug/g in lung and at 0.01 ug/g in liver, but not in blood.[1]

Bupropion is an antidepressant used to treat depression and help patients quite smoking, often marketed with the names Wellbutrin and Zyban. Its warnings include: a dose dependent risk of seizures; and advises patients not to drive or use heavy machinery until the medication's effects are known.[2]

Tramadol is a prescription opioid available as a Schedule IV controlled substance, used to treat pain. Typical therapeutic levels of tramadol are between 0.05 and 0.50 ug/ml.[3] It carries the warning: "… may impair the mental and or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly." Additionally, it increases the risk of seizures via an unknown mechanism, even when used at usual doses.[4] The FAA advises pilots not to fly while using tramadol.[5]

Zolpidem is a prescription central nervous system depressant used as short acting sleep aid, often sold with the name Ambien. It carries this warning, “Due to the rapid onset of action, zolpidem tartrate should only be taken immediately prior to going to bed.[6]

Personal Medical History

The investigation obtained summaries of health care visits from the pilot's family. The clinical visit summaries from the pilot's personal health care providers documented visits on April 18 and June 10, 2016. His active medical conditions included high blood pressure controlled with losartan; degenerative disc disease and low back pain treated with tramadol; depression and anxiety treated with bupropion and citalopram; and insomnia

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[1] The FAA Bioaeronautical Sciences Research laboratory tests for more than 1300 substances including toxins, common prescription and over-the-counter medications as well as illicit drugs. See: http://jag.cami.jccbi.gov/toxicology/default.asp?offset=0 for a complete listing.

[2] National Institutes of Health. US National Library of Medicine. *DailyMed*, 2018. BUPROPION. https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=c192f7bf-f38c-0f11-bd14-61f3e8e3bc28 Accessed 01/19/2018

[3] Federal Aviation Administration. Forensic Toxicology Drug Information. Tramadol. http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=199 Accessed 1/19/2018.

[4] National Institutes of Health. US National Library of Medicine DailyMed. Tramadol https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=ae7c54b1-b440-4cca-97e8-e5b825413d32 Accessed 1/19/2018.

[5] Federal Aviation Administration. Guide for Aviation Medical Examiners. Pharmaceuticals (Therapeutic Medications). Do Not Issue - Do Not Fly https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/pharm/dni_dnf/ Accessed 02/28/2018

[6] National Institutes of Health. US National Library of Medicine. DailyMed. Zolpidem. https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=313ccc9f-7b3e-4e42-b5d8-0e27c3c72d8e Accessed 1/19/2018.

treated with zolpidem. The record did not comment on current adequacy of control of depression. However, his latest recorded mental health visit was on April 18, 2016 and documented that he was advised to continue psychotherapy and adjust his dose of bupropion if mood changes. Losartan, tramadol, and bupropion are discussed above.

Citalopram is a prescription antidepressant commonly marketed as Celexa.[7] While citalopram is not generally considered directly impairing, depression is associated with significant cognitive degradation, particularly in executive functioning. As a result, depression is a disqualifying condition for pilot medical certification and 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.[8]

D. SUMMARY OF MEDICAL FINDINGS

According to the FAA medical case review, on his March 29, 2016 medical certification examination the 70-year-old pilot reported high blood pressure controlled with the prescription blood pressure medication losartan (this medication is generally not considered to be impairing.) Additionally, he had history of prostate cancer treated with surgery with no evidence of spread. He reported no other medications or medical conditions and the FAA Aviation Medical Examiner issued him a third class medical certificate with a limitation requiring him to wear corrective lenses.

According to a family provided summary of personal medical records from April and June 2016, in addition to his reported medical conditions, his diagnoses included depression treated with citalopram (generally not considered impairing) and the potentially impairing medication bupropion; back pain treated with the potentially impairing opioid analgesic tramadol; and insomnia treated with short acting sedating medication zolpidem.

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[7] National Institutes of Health. US National Library of Medicine. DailyMed. Citalopram. https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=6daeb45c-451d-b135-bf8f-2d6dff4b6b01 Accessed 2/20/2018.

[8] 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 1/28/2018