



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

August 1, 2019

Mary Pat McKay, MD, MPH
Chief Medical Officer

A. ACCIDENT: ERA19FA003; Fancy Gap, VA

On October 6, 2018, at an unknown time, a Piper J3C-65, N38811, was substantially damaged after it impacted terrain near Fancy Gap, Virginia. The private pilot was fatally injured. Instrument meteorological conditions prevailed, and no flight plan was filed for the cross country flight, which originated from Fayette Airport (WV59), Fayetteville, West Virginia, around 1100. The personal flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91 and had an intended destination of Twin Lakes Airport (8A7), Mocksville, North Carolina.

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 report, toxicology findings, and the investigator's reports were reviewed. Relevant regulation and medical literature were reviewed as appropriate.

FAA Medical Case Review

According to the FAA medical case review, the 65 year old male pilot had had reported 110 total flight hours as of his last aviation medical exam, dated 7/26/2012. At that time, he was 72 inches tall and weighed 209 pounds. He had reported no chronic medical conditions and no use of medications to the FAA. No significant abnormalities were identified on

the exam and he was issued a third class medical certificate limited by a requirement that he have available glasses for near vision.

Autopsy

According to the autopsy performed by the Department of Health, Office of the Chief Medical Examiner, Roanoke VA, the cause of death was multiple blunt force injuries and the manner of death was accident. No significant natural disease was identified.

Toxicology

Toxicology testing performed by the FAA's Forensic Science Laboratory identified bupropion and its metabolite hydroxybupropion in cavity blood and liver; cetirizine in cardiac blood (0.185 ug/ml) and liver; oxazepam in cardiac blood (0.028 ug/ml) and liver; sertraline, its metabolite desmethylsertraline, and famotidine in cardiac blood and liver; and zolpidem in cavity blood (0.028 ug/ml) and liver.

Drug Information

Bupropion is a prescription antidepressant used to treat major depression and as an aid to quitting smoking. It carries warnings about neuropsychiatric events including worsening depression, suicide, paranoia, agitation and aggression as well as increased risk of seizure. In addition, instructions for patients state, "any central nervous system (CNS)-active drug like bupropion ... may impair their ability to perform tasks requiring judgment or motor and cognitive skills."¹ There is no known relationship between drug levels and psychoactive effects.

Cetirizine is a sedating antihistamine marketed with many names including Zyrtec. It carries this series of warnings, "drowsiness may occur; avoid alcoholic drinks; alcohol, sedatives, and tranquilizers may increase drowsiness; be careful when driving a motor vehicle or operating machinery."² The usual blood levels thought to have effects are between 0.19 and 1.45 ug/ml.³

Oxazepam, often marketed as Serax, is a prescription medication used to treat anxiety that is available as a Schedule IV controlled substance. It carries this warning, "as with other CNS-acting drugs, patients should be cautioned against driving automobiles or operating dangerous machinery

¹ National Institutes of Health. US National Library of Medicine. DailyMed. Bupropion. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=bff74476-f633-4048-bb11-3af93950c54c> Accessed 7/31/2019.

² National Institutes of Health. US National Library of Medicine. DailyMed. Cetirizine. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=88166c8d-91c5-7950-063e-6465a22fe54b> Accessed 7/31/2019.

³ Federal Aviation Administration. Forensic Toxicology Drug Information. Cetirizine. <http://jag.camii.jccbi.gov/toxicology/DrugDetail.asp?did=131> Accessed 7/31/2019.

until it is known that they do not become drowsy or dizzy on oxazepam therapy.⁴ The usual blood levels thought to have psychoactive effects are between 0.05 and 0.20 ug/ml.⁵

Sertraline, commonly marketed with the name Zoloft, is an antidepressant that is not generally thought to be impairing.⁶

Famotidine is a heartburn treatment available over the counter and by prescription, commonly marketed with the name Pepcid. It is not generally considered impairing.

Zolpidem is a prescription sleep aid available as a Schedule IV controlled substance and commonly marketed with the name Ambien. By its chemical effects and intended use, it is sedating. In addition, it is associated with a number of behavior changes including sleep-eating and sleep-driving. Instructions state, "Patients should be cautioned against engaging in hazardous occupations requiring complete mental alertness or motor coordination such as operating machinery or driving a motor vehicle after ingesting the drug, including potential impairment of the performance of such activities that may occur the day following ingestion of zolpidem tartrate. . . Patients should also be cautioned about possible combined effects with other CNS-depressant drugs. Dosage adjustments may be necessary when zolpidem tartrate is administered with such agents because of the potentially additive effects."⁷ The usual blood levels thought to be sedating are between 0.025 and 0.30 ug/ml.⁸

D. SUMMARY OF MEDICAL FINDINGS

The 65 year old male pilot in this accident had reported no medical conditions and no medications to the FAA. According to the autopsy performed by the Department of Health, Office of the Chief Medical Examiner, Roanoke VA, the cause of death was multiple blunt force injuries and the manner of death was accident. No significant natural disease was identified.

⁴ National Institutes of Health. US National Library of Medicine. DailyMed. Oxazepam. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=140d8f61-912b-449a-9c34-b52e08b3d819> Accessed 7/31/2019.

⁵ Federal Aviation Administration. Forensic Toxicology Drug Information. Oxazepam. <http://jag.camii.jccbi.gov/toxicology/DrugDetail.asp?did=93> Accessed 7/31/2019.

⁶ National Institutes of Health. US National Library of Medicine. DailyMed. Sertraline. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=f9641190-9151-4f7e-89ff-1e7a818c30ee> Accessed 7/31/2019.

⁷ 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 7/31/2019.

⁸ Federal Aviation Administration. Forensic Toxicology Drug Information. Zolpidem. <http://jag.camii.jccbi.gov/toxicology/DrugDetail.asp?did=225> Accessed 7/31/2019

Toxicology testing performed by the FAA's Forensic Science Laboratory identified bupropion and its metabolite hydroxybupropion in cavity blood and liver; cetirizine in cardiac blood (0.185 ug/ml) and liver; oxazepam in cardiac blood (0.028 ug/ml) and liver; sertraline, its metabolite desmethylsertraline, and famotidine in cardiac blood and liver; and zolpidem in cavity blood (0.028 ug/ml) and liver.