NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

November 8, 2019

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Chief Medical Officer

A. ACCIDENT: CEN19LA050; Chesaning, MI

On December 29, 2018, about 1020 eastern standard time, a Cessna 172, N1095V, impacted the side of a building in Showboat Park, about a mile south of the Howard Nixon Memorial Airport (50G), Chesaning, Michigan. The commercial pilot on board was fatally injured and the airplane was destroyed. The airplane was being operated as a 14 Code of Federal Regulations Part 91 personal flight. Visual meteorological conditions prevailed, and no flight plan had been filed for the local flight that originated at the Oswosso Community Airport (OSC), Owosso, Michigan.

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 83-year-old male pilot had reported 13,500 total flight hours as of his last medical exam, dated 1/24/2018. At that time, he was 72 inches tall and weighed 179 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 without limitations.

Autopsy

According to the autopsy performed by the Saginaw County Medical Examiner's Office, the cause of death was multiple blunt force injuries and the manner of death was accident. Biventricular hypertrophy of the heart was identified: the heart weight was 425 gm; left ventricle measured 2.0 cm and right ventricle measured 0.5 cm in thickness. Averages for a man of his size is 354 grams of weight and 1.3 cm and 0.3 cm wall thicknesses respectively.[1]

Toxicology

Toxicology testing performed by NMS Labs at the request of the Medical Examiner on peripheral blood identified caffeine, 5.3 ug/mL of phenobarbital and 1.9 ug/mL of phenytoin in peripheral blood.

Toxicology testing performed by the FAA's Forensic Science Laboratory on cavity blood identified dextromethorphan and its metabolite dextrorphan; 6.308 ug/mL of phenobarbital and 2.246 ug/mL of phenytoin.

Medication Descriptions

Phenobarbital is a long acting central nervous system depressant that is typically used as a sedative or anticonvulsant. It is available by prescription as a Schedule IV controlled substance. It carries the following precaution, "Phenobarbital 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 should be cautioned accordingly." In addition, there is a warning against mixing it with other central nervous depressants as the effects because of additive effects.[2] Common blood levels at stable doses are between 10 and 20 ug/mL.[3]

Phenytoin is an anticonvulsant available by prescription, often marketed with the name Dilantin. Particularly at higher levels, it can cause a variety of neurologic symptoms from dizziness to somnolence to irritability and insomnia. Prescribers are asked to, "Counsel patients that extended phenytoin sodium capsules may cause dizziness, gait disturbance, decreased coordination and somnolence. Advise patients taking extended

[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. DailyMed. Phenobarbital. https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=894c57ee-0f5f-41a1-9e0d-3f1f8fdfc9ab Accessed 11/7/2019.
[3] Federal Aviation Administration. CAMI Toxicology Drug Information. Phenobarbital. http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=105 Accessed 11/7/2019.

phenytoin sodium capsules not to drive, operate complex machinery, or engage in other hazardous activities until they have become accustomed to any such effects associated with extended phenytoin sodium capsules."[4] Common blood levels in patients at stable doses are between 10 and 20 ug/mL.[5]

Dextromethorphan is a cough suppressant available over the counter in a variety of preparations. At recommended doses it is not considered impairing.

Personal Medical Records

Multiple attempts were made by NTSB investigators to locate the pilot's personal medical records. However, his physician had retired around the time of the accident and no records were found or reviewed.

D. SUMMARY OF MEDICAL FINDINGS

The 83 year old male pilot had reported no chronic medical conditions and no use of medications to the FAA.

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[4] National Institutes of Health. US National Library of Medicine. DailyMed. Phenytoin. https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=bb2b0848-1438-8d8a-22b9-551a129cc632 Accessed 11/7/2019.

[5] Federal Aviation Administration. CAMI Toxicology Drug Information. Phenytoin. http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=110 Accessed 11/7/2019.