NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

September 14, 2015

Nicholas Webster, MD, MPH
Medical Officer

A. ACCIDENT: CEN14LA148 Tribune, Kansas

On February 22, 2014, at 1802 mountain standard time, a Vans RV-9A, N7872, was found in a field about 11 miles west of Tribune, Kansas. The airplane sustained substantial damage. The private pilot was fatally injured. The airplane was owned and operated by the pilot under 14 CFR Part 91 as a personal flight that was not operating on a flight plan. Visual meteorological conditions prevailed on the day of the accident. The flight originated from Tribune, Kansas, at time unknown.

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

2. Methods

The FAA medical certification file, FAA medical case review, private medical records, toxicology, autopsy, and NTSB investigator's reports were reviewed.

FAA Medical Certification File

According to the pilot's FAA medical certification file, the pilot was first issued a medical certificate in 1975. At his last exam on January 14, 2013 he was 63 years old, 74 inches tall, weighed 202 pounds, and had accrued 835 total flight hours. He reported high blood pressure treated with medication, and a past history that included kidney stones and an episode of pneumonia. His only reported medication was amlodipine. Amlodipine is a medication used to treat high blood pressure marketed under a number of different names including Norvasc.[1] The Aviation Medical Examiner (AME)

commented that the pilot's blood pressure was under good control, and he had no side effects from the medications. The AME issued the pilot a third class medical certificate with the following limitations: Must have available glasses for near vision.

Primary Care Medical Records

According to a primary care treatment record dated November 25, 2013, the pilot received treatment following a fall. Additionally, the note revealed the pilot had unspecified motor neuron / movement disorder and on neurologic exam had generalized weakness and unsteady gait. The note stated, "Discussed briefly with the patient that it was my opinion the he should not drive his car, or fly his plane due to his impaired response time."

Neurologist Records

Neurology records dating from January 14, 2014 through February 18, 2014 revealed that over the ten months prior to the accident the pilot experienced rapidly progressive neurologic symptoms including tremor, difficulty walking, difficulty swallowing resulting in choking and aspiration, difficulty speaking, and excessive drooling. Four days prior to the accident, his neurologist noted the pilot was alert and oriented, had severe drooling treated with botulinum toxin injections, had asymmetric moderate rigidity in his arms, and had severely slowed movements generally.

Autopsy

The autopsy conducted by a clinical pathologist at St. Catherine Hospital Lab, Garden City, KS determined the cause of death was blunt force trauma and the Greely County Coroner reported the manner of death was accident. Examination of the heart identified mild coronary artery atherosclerosis with a maximum occlusion of 30% in the right coronary artery. The autopsy did not identify any other natural disease.

University of Colorado performed a focused neuropathology analysis which identified widespread areas of acute and organized necrosis in multiple areas of the brain associated with sclerotic changes (hardening of the tissues), with calcinosis (deposits of calcium) of the deep penetrating cerebral arteries (Fahr's syndrome).[a]

Toxicology

A urine drug screen conducted by St. Catherine's Hospital laboratory was negative for ethanol and commonly used drugs of abuse. Toxicology testing was not performed by the FAA's Civil Aerospace Medical Institute because the specimens submitted were not suitable for analysis.

[a] Fahr's syndrome is a rare neurodegenerative condition characterized by the accumulation of calcium deposits in the basal ganglia and other brain regions. Symptoms can include one or more features of parkinsonism, chorea, dystonia, cognitive impairment, or ataxia. Onset of symptoms usually occurs between ages 20 to 60. Chou KL Diagnosis of Parkinson disease In: UpToDate, Post TW (Ed), UpToDate, Waltham, MA. Accessed 08/28/2015 http://www.uptodate.com/contents/diagnosis-of-parkinson-disease?source=preview&language=en-US&anchor=H105734326&selectedTitle=1~3#H105734326

D. SUMMARY OF FINDINGS

According to private physician records and neurology records, the pilot had a ten-month history of a rapidly progressive neurologic disorder that affected his muscle movements. Three months prior to the accident, the private physician advised the pilot not to drive or fly due to impaired response time. Four days prior to the accident, the neurologist noted asymmetric moderate rigidity in arms and severely slowed movements generally. The autopsy identified mild coronary artery atherosclerosis with up to 30% occlusion of the right coronary artery and neuropathology evaluation found widespread degenerative disease in multiple areas of the brain.

References

[1] National Institutes of Health, U.S. National Library of Medicine, MedlinePlus. Amlodipine. http://www.nlm.nih.gov/medlineplus/druginfo/meds/a692044.html Accessed 07/09/2015