



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

July 24, 2019

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A. ACCIDENT: WPR18FA188; Majuro, Marshall Islands

On July 4, 2018, about 2114 Universal Coordinated time, a Hughes 369D helicopter, N8648F, impacted international waters in the Pacific Ocean about 20 seconds after takeoff from a Taiwan-registered fishing boat. The commercial pilot and the observer received fatal injuries. The helicopter was destroyed by the impact and salt water immersion. The helicopter was registered to Vertol Systems Company of Hillsboro, Oregon, and operated as a 14 Code of Federal Regulations Part 91 aerial observation flight. Visual meteorological conditions existed about the time of the accident.

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

Methods

The Federal Aviation Administration (FAA) medical case review, pilot's FAA medical certification records, autopsy report, toxicology, and Department of Veterans Affairs service treatment records were reviewed. Other pertinent scientific and regulatory issues were examined.

FAA Medical Case Review and FAA Medical Certification File

According to the FAA medical case review, the last aviation medical exam for the 39-year old male pilot was dated 10/17/2017. At that time, he was 69 inches tall and weighed 268 pounds. The pilot reported no medication use, a history of hay fever, and veteran's medical disability for post-traumatic stress disorder (PTSD). The aviation medical examiner (AME) determined that the airman was not at risk for obstructive sleep apnea. The AME did not identify any significant medical

issues. The pilot was issued a second class medical certificate with the following limitations: None.

There were five previous FAA medical applications between 2013 and 2017. There was no prior military aviation experience. Total pilot time recorded in the January 2017 FAA medical application was 585 hours. In all applications, the pilot denied use of medications and reported his only visits to health professionals were for an evaluation of PTSD and his shoulder as he was released from active duty in December 2012 and for a disability claim review at a Veterans Affairs hospital in July 2013. In the first (2013) FAA medical application, mention was given to service in Iraq (2005) and Afghanistan (2012). The AME noted that the pilot claimed he “had no problems since out of the army.” In the 2014 FAA medical application, the pilot was “one-third disabled secondary to PTSD, but he requires no medication. Had some nervousness getting back into civilian life 18 months ago. Has never had any prescription treatment and not symptomatic.” The AME reported administering a mental health quick evaluation and found the pilot to be well organized with good cognitive function and a good outlook.

On the last three FAA medical applications, the pilot noted that he had hay fever or allergies, for which he occasionally used over the counter antihistamines.

Autopsy

According to the autopsy performed by the Armed Forces Medical Examiner, the cause of death was probable drowning due to aircraft mishap and the manner of death was accident. The autopsy report noted that the pilot had been found seat belted to his chair and had spent an undetermined amount of time in the sea. The decedent was embalmed prior to being received for autopsy and was noted to be obese (BMI 39.7). External exam revealed multiple abrasions on the head, torso, and extremities. The brain was intact with no hemorrhage present. The heart showed mild atherosclerosis. No significant traumatic injuries were noted.

Toxicology

Toxicology testing performed by the Armed Forces Medical Examiner System (AFMES) identified methanol related to embalming fluid in vitreous and sinus fluid; no ethanol was detected in either fluid. Toxicology was positive for chlorpheniramine (an over the counter antihistamine used to treat cold and allergy symptoms) detected in the liver (123 nanograms per gram, ng/gm); no other tested-for substances were detected. Chlorpheniramine has a long elimination half-life of 12 to 48 hours¹ and FAA recommends a five-day wait from the last dose before performing airman duties.

Army Medical Records

Service treatment records were obtained from the Department of Veterans Affairs for the period September 1995 to January 2013. During his years of service, the

¹ Federal Aviation Administration. CAMI toxicology Drug Information for: Chlorpheniramine. <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=29> Accessed 4/18/2019.

pilot had multiple visits for acute self-limiting problems such as upper respiratory infections and rashes, as well as some longer term back and shoulder injuries that involved multiple visits, medication, and physical therapy sessions. The pilot had ongoing issues with gastric reflux.

There were several psychiatric diagnoses in the pilot's records. Attention deficit hyperactivity disorder (ADHD) was first noted in October 2006; later visits would note ADHD without hyperactivity (October 2009) and ADHD predominantly inattentive type (January 2011). The stimulant methylphenidate (commonly marketed as Concerta or Ritalin) was prescribed to treat ADHD. The pilot was also diagnosed with adjustment disorder qualified with anxiety and depressed mood (May 2007) and later qualified with post traumatic symptoms (September 2012). Records indicate treatment of depression by counselling and with bupropion (commonly marketed as Wellbutrin) and later sertraline (marketed as Zoloft) dating back to at least May 2007. There were diagnoses in May 2007 and January 2010 of insomnia, where zolpidem (commonly marketed as Ambien) was prescribed.

The final psychiatric evaluation record was from November 28, 2012. The pilot's diagnoses were "adjustment disorder with post traumatic symptoms, possible PTSD" and "ADHD by history, predominantly inattentive type, possible recent over activation from CNS [central nervous system] stimulant." Counseling and the medications sertraline and zolpidem were prescribed for his adjustment disorder; the expiration dates for the prescriptions were October 3, 2013 and April 1, 2013, respectively. For ADHD, the psychiatrist instructed the pilot on tapering off the methylphenidate. During the visit, the pilot denied suicidal or homicidal ideation. The pilot discussed how he felt easily agitated with people, was restless, and had some sleep difficulties. The pilot's mood was described as appearing sad and unemotional with a thought process that was linear, logical, and goal directed. The psychiatrist determined that the pilot's psychiatric condition was not a disabling condition for active military duty.

According to form DD214, the pilot received an honorable discharge with a separation date of January 14, 2013.

No medical records were provided for the July 2013 disability claim review at the Veterans Affairs hospital that was reported in the FAA medical application.

D. SUMMARY OF MEDICAL FINDINGS

The 39-year old male pilot held a current second class medical certificate and other than obesity had no significant physical health issues and reported no medications. The pilot had more than 600 total hours of flight experience.

During his military service, the pilot received multiple diagnoses for psychiatric conditions including ADHD, adjustment disorder, insomnia, and depression. The pilot's final army psychiatric evaluation record in November 2012 included the diagnosis of

adjustment disorder with post-traumatic symptoms and, by history, the inattentive type of ADHD.

According to his FAA medical certification records, he was receiving partial disability for PTSD. In the 2014 FAA medical application, the AME reported administering a mental health quick evaluation and found the pilot to be well organized with good cognitive function and a good outlook.

According to the autopsy performed by the Armed Forces Medical Examiner, the cause of death was probable drowning due to aircraft mishap and the manner of death was accident. Post-mortem toxicology on the embalmed body was positive for chlorpheniramine detected in the liver; no other screened drugs of abuse or medications were detected.