

CEN13FA012

Simpson, LA: 10/14/2012

MEDICAL FACTUAL

The Chief Medical Officer for the National Transportation Safety Board, Mary Pat McKay, MD, MPH, reviewed the following information in this case: the investigator's reports, the toxicology results and autopsy findings, FAA blue ribbon medical file, FAA medical review, and the pilot's personal medical records.

According to the FAA blue ribbon medical file, this pilot was granted his first medical certification in 1992. His last medical certificate was issued for the third class without restrictions on 5/11/1998. He reported no medical problems and no medications to the FAA. On his last exam, he was 30 years old, 5 foot 6 inches tall, and 214 pounds (BMI = 34.5 [1]). At the time of the accident (10/14/2012), the pilot was flying without a valid medical certificate.

According to the pilot's personal medical records (available from 2003 forward), he had a history of hypertension (high blood pressure), insomnia, and ankylosing spondylitis (a form of inflammatory arthritis). He was treated with a number of medications for these conditions including, during 2012, with clonidine, enalapril, valsartan, and triamterene/hydrochlorothiazide for the hypertension; meloxicam, sulfasalazine, and hydrocodone/acetaminophen (10/500mg) for the ankylosing spondylitis, and zolpidem for the insomnia. Clonidine, enalapril, valsartan, and triamterene/hydrochlorothiazide are blood pressure medications; meloxicam is a non-steroidal anti-inflammatory analgesic marketed under the trade name Mobic; sulfasalazine is an inhibitor of inflammation; hydrocodone/acetaminophen is a narcotic analgesic prescribed as a Schedule III controlled substance and marketed under the trade name Lortab; and zolpidem is a sedative hypnotic sleep aid prescribed as a Schedule IV controlled substance and marketed under the trade name Ambien. Both of the latter two medications carry the following FDA warning: "may impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g., driving, operating heavy machinery)."[2, 3]

The pilot's last visit to his personal physician was 9/14/2012, a month before his fatal accident. At that time, he reported a flare of symptoms from his ankylosing spondylitis including increased joint pain and stiffness, and was treated with a steroid taper. The effectiveness of that treatment is not documented in the medical record, but 10 days later, 9/24/2012, he called the physician's office for a refill of his narcotic pain medication.

The pilot was 44 years old at the time of the accident. According to the autopsy evaluation, the cause of death was blunt force deceleration injuries. No blood, urine, or vitreous was available for toxicological analysis. However, ethanol (0.079 ug/dl), n-butanol, and n-propanol were

detected in muscle and 0.067 ug/dl of ethanol was detected in liver tissue. Ethanol, or ethyl alcohol, is the alcohol found in beer, wine, and liquor. N-butanol and n-propanol are other alcohols; all three may be produced in human tissues post mortem.

In addition, zolpidem was detected in both liver and muscle. Hydrocodone (1.38 ug/ml), oxycodone (0.857 ug/ml), and dihydrocodeine (a metabolite of oxycodone, 0.045 ug/ml) were detected in gastric juice. Hydrocodone (0.087ug/ml) and oxycodone (0.103 ug/ml) were also found in lung tissue. Both hydrocodone (marketed under the trade names Vicodin, Lorcet, and Norco) and oxycodone (marketed under trade names Percocet and Roxicet and in a longer acting preparation known as Oxycontin) are semi-synthetic opioids used in the treatment of moderate to severe pain and are listed by the FDA as schedule III controlled substances.

References

1. *US Department of Health and Human Services. National Heart Lung and Blood Institute. BMI Calculator.*; Available from: <http://nhlbisupport.com/bmi/>.
2. *Federal Aviation Administration. Civil Aerospace Medical Institute. Toxicology Drug Information: Oxycodone.* Accessed 6/3/2013; Available from: <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=94>.
3. *Federal Aviation Administration. Civil Aerospace Medical Institute. Toxicology Drug Information: Hydrocodone.* Accessed 6/3/2013; Available from: <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=73>.