

## **ERA13FA039**

**Hooksett, NH; 10/25/2012**

### **MEDICAL FACTUAL**

The following have been reviewed by Mary Pat McKay, MD, MPH, Chief Medical Officer for the National Transportation Safety Board: the pilot's FAA blue ribbon medical file, the investigator's reports, the autopsy record and toxicology findings, readout of the pilot's pacemaker, and the radar track of the flight.

According to the FAA blue ribbon medical file, this 83 year old pilot had first been granted a third class medical certificate in 1967. In 1976 he upgraded to a second class medical certificate, which became limited by the need to have available glasses for near vision. He continued to have routine aviation medical exams and certificates issued in the second or third class through 1997. Aside from hay fever, over those thirty years the pilot did not report any medications or medical problems. In 1999 he reported high blood pressure and treatment with Nadol (nadolol, a beta-blocker used to treat hypertension). He received a third class certificate but upon FAA review, additional information from his personal physician was requested. Once this had been received and reviewed, the FAA confirmed his eligibility but sent a letter requested additional information for his next exam and cautioning him against flying if he developed new symptoms or side effects from medication. He provided the relevant information and received a third class medical certificate in 2001.

The pilot next applied for medical certification in 2003. At that time he reported having undergone coronary artery bypass grafting and pacemaker insertion in 2002; his medical certificate was deferred and additional information requested. That information described a gentleman with a history of hypertension as well as paroxysmal atrial fibrillation, high cholesterol, sleep apnea, aortic insufficiency and a previous stroke (none of which had previously been reported to the FAA) who had developed shortness of breath with exertion. Stress testing revealed ischemia, cardiac catheterization revealed three vessel coronary artery disease and the pilot underwent three vessel bypass grafting in July, 2002. In December, 2002, he had developed symptomatic bradycardia which required insertion of a permanent pacemaker. Notes from that admission identify additional historical diagnoses of renal insufficiency and Type II diabetes. After supplying all of the requested additional information, the pilot was granted a third class, special issuance, 6 month time limited medical certificate. The pilot continued to supply copious additional medical information as requested by the FAA and continued to receive special issuance, time limited medical certificates. Over the ensuing years, he additionally reported bilateral cataract removal, prostate surgery, sleep apnea requiring the use of CPAP, and removal of a melanoma. In 2011 the pilot reported using both Januvia and Glipizide to treat his diabetes. In March, 2012, the FAA requested the return of that certificate

as the concomitant use of these two medications is not allowed. The pilot worked with his physicians to stop the Glipizide and maintain control of his diabetes to be compliant with the FAA regulations. The pilot's last special issuance, third class medical certificate was issued 8/14/2012, limited to six months and by the requirement for corrective lenses.

Toxicology testing found no carbon monoxide, cyanide, or ethanol but revealed metoprolol (a beta-blocker, used to treat hypertension, atrial fibrillation, and coronary artery disease, marketed under the trade name Lopressor), ranitidine (an H2 blocker used to treat ulcers and heartburn, marketed under the trade name Zantac), and warfarin (an anticoagulant or blood thinner, used to prevent blood clots, marketed under the trade name Coumadin) in urine and blood. All of these had been reported to the FAA.

Although the autopsy identified many traumatic injuries, there was minimal bleeding associated with them. The cardiac examination demonstrated a 720gm heart (normal for a man of this height would be  $330\pm 40$ gm [1]). One of the venous coronary artery bypass grafts was found to be completely occluded by red-tan firm thrombus beginning approximately 2 cm from its origin and extending to the anastomosis with the native left marginal artery. The cause of death was determined to be coronary artery bypass graft thrombosis due to atherosclerosis and the manner of death was natural. Post mortem interrogation of the pacemaker did not reveal any terminal rhythms.

## Reference

1. Zeek, P., *Heart Weight*. Arch Pathol, 1942. **43**: p. 820-832