



H133 An Unusual Case of Suicide in a Young Skydiver

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The goal of this presentation is to report a well-documented case of suicide in a young, experienced civilian parachutist.

This presentation will impact the forensic science community by raising awareness that, as in all medicolegal investigations, every skydiving fatality should require a thorough forensic investigation involving a multidisciplinary approach to allow the forensic pathologist to ascertain the exact cause and manner of death in light of all available relevant information.

Deaths associated with parachuting are very uncommon and the vast majority of these are accidental.¹ Very few suicides have been reported in survey reports on skydiving fatalities worldwide, and the scientific literature contains very limited data about suicidal deaths of skydivers.²

This study reports an unusual case of suicide in a 26-year-old civilian skydiver with no significant past medical history, whose body was found dead on an airfield after a 4,000-meter freefall jump. According to witnesses, the victim's main and reserve parachutes did not open and his body remained in a stable freefall arched position until ground impact, then bouncing once on the ground and falling back a few meters away. The backpack the victim was still carrying contained the main and reserve parachutes still packed and properly attached to the harness. The victim's altimeter, helmet, and shoes were found nearby the weed-free area adjacent to the impact site.

A postmortem examination performed two days later revealed a severe multiple blunt trauma with a significant antero-posterior flattening of the body, consistent with a high-energy impact with the ground. Extensive abrasions were arranged symmetrically on the front of the body, whereas no injury was observed on the back, consistent with a ground impact in a stable "belly-down" position. Upon internal examination, there were multiple skull fractures, as well as spinal, rib, pelvic, and limb fractures, with open and symmetrical shoulder and knee fractures. These skeletal injuries were associated with widespread soft tissue hemorrhages and severe injuries to the internal organs, including the brain, heart, and lungs, that exhibited extensive lacerations. No additional injuries that could have been inflicted to the victim prior to the jump nor any evidence of previous natural disease that could have precipitated or contributed to the death were noted. Toxicological analyses performed on the organs, the gastric content, and the vitreous were negative.

Police investigation revealed that the victim, who had considerable skydiving experience and had performed more than 130 jumps, had died during his third consecutive jump of the day, as weather conditions were good. The investigation also discovered that he had recently experienced marital problems and had expressed suicidal thoughts in text messages sent to his wife just before jumping out of the plane.

An expert examination of the parachuting equipment ruled out any evidence of gear malfunction, such as incorrect packing or failure of the chute. In addition, the examination found the Automatic Activation Device (ADD) that allows the reserve parachute to be automatically deployed at low altitude if the skydiver has not released his main chute had been disabled prior to the third jump, with no evidence of criminal intent found.

On the basis of the autopsy findings, testimony of witnesses, and police investigation data, manner of death was considered to be suicide.

Per research, this is the first well-documented case of suicide in a parachutist that has been reported in the scientific literature to date. This case stresses the need to conduct a thorough forensic investigation to determine the cause and manner of death in skydiving fatalities.

Reference(s):

1. Burke M.P., Chitty J. Forensic Analysis of Parachute Deaths. *Am J Forensic Med Pathol.* 2017;38(1):83-9.
2. Lester D., Alexander M. Suicide and dangerous sports: Parachuting. *JAMA.* 1971;215(3):485.

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