

REVIEW OF THE DEATH OF SANDRA MALONEY

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Background.

Ms. Maloney was found dead at her home in Green Bay, Wisconsin on February 11, 1998.

She had a history of alcohol and drug abuse and threats of suicide and was in the process of divorcing from her husband, John Maloney, a Green Bay police officer.

Entry to her home when her body was discovered apparently had to be forced by cutting a piece of string which was holding the door closed.

Inside, Ms. Maloney's body was found face down on a sofa. There had been a self limiting fire originating on the sofa and her body had some thermal injuries. She was a cigarette smoker and known to be careless in disposing of lighted cigarettes. The initial assessment of the scene by law enforcement was that this was an accidental death due to an accidental fire.

However, an autopsy identified the following;

1. areas of hemorrhage in the front of Ms. Maloney's neck and petechiae in one eye
2. her blood carbon monoxide level was found to be effectively zero, despite the fact that smoke and soot were present in her airway.
3. She had other minor injuries including a laceration of her scalp.
4. Her blood alcohol level at the time of her death was 0.25% and her vitreous alcohol was 0.40%.

Based on these observations, the pathologist concluded that her death was 'probable manual strangulation' and that the manner of death was homicide.

Allegations were then made that the fire had been deliberately set and was not accidental.

John Maloney was then charged with, and convicted of, Sandra's murder and is currently serving his sentence.

DISCUSSION

The conclusion that Ms. Maloney's death was caused by strangulation cannot be sustained for the following reasons:

1. The areas of 'hemorrhage' in her neck and the 'petechiae' in her eyelid are not hemorrhage or petechiae but are typical of livor mortis¹.

Livor mortis is the term used to designate the "color of death" and is caused by gravity creating pooling of the blood in the areas of the body closest to the ground. In Ms. Maloney's case this would be the front of her body, i.e. the front of her neck and face, since she was face down.

Blood remains entirely within blood vessels for only a short time after death. The vessel walls rapidly become porous, and the blood escapes into the tissues. This is called 'fixing' of lividity, since blood which has escaped into the tissues due to this process is no longer mobile.

The area of 'hemorrhage' located in the region of the thyroid cartilage and hyoid bone appears to have been quite small.

Blood which has escaped from the vessels due to lividity is anatomically indistinguishable from blood forced into the tissues by a pre-mortem impact, assuming that:

- the skin cannot be adequately examined (as it could not in this case due to thermal injury)

- that microscopic examination displays no evidence of reactive inflammatory response, which would indicate a contusion. There was no evidence of inflammatory response in microscopic sections from Ms. Maloney's 'injuries.'

This problem may have been exacerbated by the relative absence of lividity in the areas directly overlying the bony and cartilaginous support structures of the neck i.e. the thyroid

¹See Spitz and Fisher. *Medicolegal Investigation of Death*. 3rd Ed. 1993. Charles C. Thomas, Springfield, Illinois. p. 24 in relation to the issues discussed.

cartilage and hyoid bone. These areas were pressed against a cushion on the sofa and the blood vessels overlying these solid tissues would tend to be compressed and emptied of blood. This would tend to exaggerate the appearance of 'hemorrhage' due to the contrast between areas where lividity had developed and areas where mechanical pressures had inhibited its ability to form.

The postmortem escape of blood into the tissues in this fashion can often most easily be observed underneath the thin, transparent skin of the eyelids, in the phenomenon known as "tardieu spots", and this was observed in Ms. Maloney's case. Again, these 'spots' exactly resemble petechiae and cannot be distinguished from them in isolation from the overall facts of the case.²

2. The conclusion that a negative carbon monoxide level in Ms. Maloney's bloodstream indicates that she was dead prior to the fire starting is erroneous for the following reasons:

Her vitreous alcohol level Of 0.40% (which translates into a minimum of approximately 0.36% blood alcohol"^{3,4}) indicates a potentially lethal level of blood alcohol.

A lethal level of blood alcohol is not always instantly fatal. It is well recognised that victims often will sustain irreversible lethal injury to the vital centres of their brain due to alcohol, but that their heartbeat and respiration will continue for some time after⁵,

During the time when their heartbeat and circulation continue and their respiration continues, their body will continue to process and eliminate alcohol and their alcohol level will fall, in Ms. Maloney's case from a minimum of 0.36% to 0.25%. Assuming an hourly rate of

²Spitz and Fisher. *Medicolegal Investigation of Death*. 3rd Ed. 1993. Charles C. Thomas. Springfield, Illinois. p. 41 "Postmortem Artifacts".

³Felby S., Olsen J. Comparative Studies of postmortem alcohol in vitreous humor, blood and muscle. *J. Forensic Sci.*, 14;93, 1969

⁴Coe, J.L., Sherman, R.E. Comparative study of postmortem vitreous humor and blood alcohol. *J. Forensic Sci.* 15:185, 1970

⁵Spitz and Fisher. *Medicolegal Investigation of Death*. 3rd Ed. 1993. Charles C. Thomas. Springfield, Illinois. p. 773-4

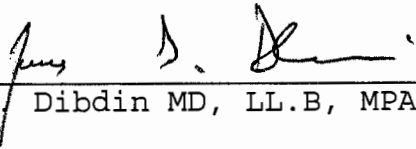
fall of 0.015 - 0.020%⁶, she would have been in an irreversible coma for up to 5-7 hours prior to her heartbeat and respiration finally ceasing.

The presence of smoke and soot in her airway indicates that she was breathing during the fire. However, when the fire self extinguished, the source of carbon monoxide was removed, and thereafter her body would continue to eliminate the carbon monoxide in her bloodstream until such time as her heartbeat and respiration finally ceased or until the level was, as in her case, effectively zero⁷. If Ms. Maloney was in an irreversible coma for several hours, that would be more than adequate to explain the negative carbon monoxide reading combined with the otherwise puzzling finding of smoke and soot in her airway.

It is also well recognised that carbon monoxide does not always cause death instantly either, and that it can cause irreversible damage to the brain, with continuation of heartbeat and respiration for a time, in a manner similar to the effect of alcohol.

Ms. Maloney's death may be due to a combination of alcohol and carbon monoxide, or to alcohol alone⁸.

3. She may well have other real minor injuries. However, that is not surprising given her intoxicated state. It would be surprising if she were not falling down and bumping into things. The laceration on the back of her head simply indicates an impact of some kind. It might have been sustained, for example, by knocking her head on the sharp edge of a shower stall, or inadvertently lifting her head up and striking the edge of an open door of a bathroom or kitchen cabinet.


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⁶Spitz and Fisher. *Medicolegal Investigation of Death*. 3rd Ed. 1993. Charles C. Thomas. Springfield, Illinois. p. 773

⁷Spitz and Fisher. *Medicolegal Investigation of Death*. 3rd Ed. 1993. Charles C. Thomas. Springfield, Illinois. p. 488-89

⁸Ibid.

James D. Dibdin - Resume

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