



## Pathology Biology Section – 2006

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### **G18 Fatal Venous Air Embolism in a Postmenopausal Female During Consensual Sexual Intercourse: A Case Report and Review of the Literature**

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After attending this presentation, attendees should have an understanding of the varied setting in which venous air embolism can occur and can cause sudden death.

This presentation will impact the forensic community and/or humanity by presenting a case with an unusual cause of sudden death and to review the relevant literature for future reference.

*Case Report:* A sixty-year-old female had recently begun an infrequent sexual relationship with a younger man. Following sexual intercourse on the day of her death, her partner noted blood on his penis. She denied pain, but stated that she did not feel well and was having some shortness of breath. She then collapsed and expired despite resuscitative measures, which were delayed, as her partner dressed her prior to summoning help.

Autopsy revealed an atrophic vaginal mucosa with a laceration of the right lateral sidewall. Intravenous air was present in the pelvic veins and there was also interstitial emphysema. Aspiration of blood from the coronary sinus revealed frothy blood and air bubbles were present in her epicardial veins.

*Methods:* Autopsy protocol and investigative findings for this patient are reviewed. The medical literature was searched using the keywords *air embolism*, *venous air embolism*, *sudden death*, and *vaginal laceration* for citations relating to venous air embolism. References from citations found were further reviewed for relevant literature.

*Results:* Venous air embolism is a well-described phenomenon, associated with neurosurgical procedures in both the seated and prone position, as well as in pelvic procedures ranging from transurethral prostate resection to hysteroscopy. It has also been reported to occur in the pregnant women following vaginal insufflation and intercourse, in non-pregnant women following intercourse and autoerotic manipulation. Cranial blunt injuries may result in air embolism. Cases related to central venous catheter use, percutaneous lithotripsy, endoscopy and intraoperative hydrogen peroxide irrigation have also been reported.

*Conclusions:* Venous air embolism is an unusual cause of sudden and unexpected death and this report documents the first case of this phenomenon occurring in the setting of a vaginal laceration resulting from consensual sexual intercourse in a post-menopausal woman.

**Air Embolism, Vaginal Laceration, Sudden Death**