

CASE REPORT

Barry D. Lifschultz,¹ M.D. and Edmund R. Donoghue,² M.D.

Air Embolism During Intercourse in Pregnancy

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ABSTRACT: Air embolism may rarely cause sudden death during or shortly after pregnancy. Certain obstetric techniques, douching procedures, and blowing air into the vagina have been associated with this phenomenon. A case of venous air embolism in a pregnant woman occurring during sexual intercourse in a rear entry position is presented.

KEYWORDS: pathology and biology, embolism, coitus, pregnancy

Women are known to be susceptible to venous air embolism during pregnancy and the puerperium [1,2]. Fatal air embolism during pregnancy has been reported with injection of fluids or gases to produce abortion, douching, vaginal powder insufflation, and blowing air into the vagina during sex play. During delivery and the early puerperium, air embolism has been associated with manual extraction of the placenta, placenta previa, Braxton-Hicks version, Cesarean section, and forceps delivery. During the late puerperium, most cases of fatal air embolism have been associated with activities in the knee-chest position.

Case Report

A 27-year-old black female, in the fifth month of an uncomplicated pregnancy, began gasping for breath while having intercourse with her husband. The husband said they were having vaginal intercourse in a rear entry position. He indicated that his wife was on her knees and elbows with her head on the bed. He specifically denied cunnilingus or blowing air into the vagina. Paramedics were called and initiated cardiopulmonary resuscitation; however, the patient was dead on arrival at the hospital. The past medical history was not contributory.

At autopsy, the wall of the uterus crackled with air. Air was present in the uterine veins, vena cava, and jugular veins. The heart was opened under water and a large amount of air was expelled from the right side. A male fetus measuring 10 cm from crown to rump was present in the uterus. No abnormalities of the placenta were observed.

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¹Deputy medical examiner, Office of the Medical Examiner of Cook County, Chicago, IL.

²Deputy chief medical examiner, Office of the Medical Examiner of Cook County, Chicago, IL and associate in clinical pathology, Northwestern University School of Medicine, Chicago, IL.

Discussion

During pregnancy the veins of the uterus are exposed and fixed; when traumatized they remain open [1]. The assumption of the prone knee-chest position elevates the uterus above the level of the right atrium and creates negative pressure caused by gravity which may suck air into open veins. Additional negative pressure may be produced by respiration. Finally, during intercourse with rear entry into the vagina, air under pressure may be forcibly pumped into the uterine sinuses.

Comfort [3] states that "the head-down position (of intercourse) is best for depth and total apposition—avoid it if it hurts her, or if she has a weak back, or if she is pregnant." He gives no reason for the prohibition in pregnancy. He also indicates this position is "apt to pump her full of air. . . ."

Pugh and Fernandez [4] have indicated that there is no need to abstain from intercourse during the final weeks of pregnancy. The case presented here indicates that vaginal intercourse, as early as the fifth month of pregnancy, in the kneeling rear-entry position may be dangerous.

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Address requests for reprints or additional information to
Barry D. Lifschultz, M.D.
Office of the Medical Examiner of Cook County
2121 West Harrison St.
Chicago, IL 60612