



H96 A Case of Fatal Hemorrhage During Pregnancy

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Learning Overview: After attending this presentation, attendees will have learned about the placenta accreta spectrum, including pathologic findings and risk factors.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by increasing awareness of placenta accreta spectrum to aid in its consideration as a differential diagnosis in cases of sudden death in pregnancy.

The case of a 31-year-old G2P1 (two pregnancies, one birth) female with a history of substance abuse, prior caesarian section, and preterm delivery who was brought to the hospital at 38 weeks pregnant due to possible onset of labor will be presented. During examination at the hospital, she appeared agitated, and further evaluation and examination was difficult due to her status. She stated to health care providers that she had recently used methamphetamine. Initial assessment found no fetal heart tones, which was confirmed by follow-up ultrasound. Her agitation reportedly increased and while awaiting admission to the hospital, she became unresponsive. Attempted resuscitative efforts were not successful.

Autopsy revealed at well-developed gravid female with evidence of resuscitative efforts. There was no significant external trauma. Internal examination revealed approximately three liters of liquid blood and clot were present within her peritoneal cavity. Further examination showed a gravid uterus, with a 20cm span of abnormal dark dusky discoloration over the anterior surface. This abnormality was determined to be the maternal surface of the placenta. A 0.5cm hemorrhagic defect was present within the maternal surface of the placenta and uterus. There was no evidence of infection or lesions within the placenta. A third-trimester fetus without anomaly or injury was within the intact amniotic sac. Meconium was identified within the amniotic fluid. Microscopic examination confirmed the absence of uterine wall over an otherwise unremarkable placental tissue, consistent with placenta percreta.

Toxicology results included the presence of methamphetamine, amphetamine, buprenorphine, and norbuprenorphine in the decedent's blood. The cause of death was signed out as complications of placenta percreta, with acute methamphetamine intoxication as a contributory factor. The manner of death was accident.

Placenta percreta is part of the placenta accreta spectrum, in which the placenta abnormally invades into and through the myometrium of the uterine wall. The placental villi invade and adhere to the myometrium, which increases the risk for postpartum hemorrhage and rupture. The main pathologic classifications within the placenta accreta spectrum include placenta accreta, increta, and percreta, in which the villi invade superficially, deeper into the myometrium, or through the myometrium, respectively. While relatively rare, the rates of placenta accreta spectrum have been increasing in the past 40 years, some believed in part to an increasing caesarian section rate. Antenatal diagnosis of the placenta accreta spectrum is important due to the increased risks to morbidity and mortality of mother and fetus and for optimal management of the condition at the time of delivery.

Placenta, Pregnancy, Hemorrhage