

Postmortem Examination Report

Cree B. Erwin-Sheppard

WMed Number: W16-481
Date of Birth: 01/06/1992
Date Pronounced Dead: 07/04/2016
Age: 24 years
Sex: Female
Date of Examination: 07/04/2016
Time of Examination: 0825 hours
Procedure: Complete Autopsy
Identification: Identification tags
County: Calhoun
Medical Examiner: Elizabeth A. Douglas, MD
Persons in Attendance: Lee Morgan and Nicole
Bartusch Autopsy Assistants

Cause of Death: Complications of intrauterine pregnancy, including pulmonary emboli related to uterine vein thrombosis and uterine perforation status post early vacuum aspiration and intrauterine contraception placement

Other Condition: Methadone use

Manner of Death: Accident

Investigative Summary

The decedent, a 24 year-old G2P1 female, was found dead at a relative's home after complaining of pelvic pain. There is past medical history of pregnancy induced hypertension with a previous pregnancy, but no other known medical history. There was reported history of a recent early vacuum aspiration and intrauterine contraception placement on 06/30/2016. On July 2, 2016 Cree presented to the emergency department with persistent pelvic pain and new-onset nausea and vomiting, and was discharged with instructions for outpatient follow-up. Additional details of this investigation are on file with the Calhoun County Medical Examiner's Office.

Receipt of Remains

The remains were transported to the morgue by Kimo Bareng on Monday, July 04, 2016 at 03:40 hours and assisted into the facility by Nicole Bartusch of the Pathology Department.

The remains are received in the supine position contained within a blue plastic transport pouch. A tag attached to the transport pouch bears the name, "Erwin, Cree". A seal securing the zippers on the transport pouch bears the number "0083943". A tag attached to the left ankle bears the decedent's name. A hospital issued identification band is around the left wrist.

External Examination

Clothing and personal effects

The remains are received wearing and with the following:

- Navy blue t-shirt
- Gray sweatpants
- Bra, white
- Multi-colored bikini style underwear
- Body jewelry

Features of identification

The body is that of an African American female, whose appearance is consistent with the reported age of 24 years. The body weighs 182 pounds, including the weight of the personal effects and transport pouch, and is 65 inches in length. The scalp hair is medium length and dark brown with auburn streaks with a normal distribution. The irides appear brown. The upper teeth are natural and in good repair. The lower teeth are natural and in good repair. In addition to these features of identification, the following scars and tattoos are noted:

- 1 inch x 1 inch irregular scar of the right forearm
- ¾ inch x 1 ½ inch irregular scar of the right forearm
- 4 inch irregular scar over the middle third of the anterior right proximal lower extremity

- 4 inch x 6 inch blue-black tattoo of text over the anterolateral left proximal lower extremity
- 2 inch x 6 inch blue-black tattoo of "Capricorn" over the sacral spine

Postmortem changes

Rigor mortis is mild. Fixed red lividity is over the anterior body surfaces. The skin temperature is cool; the body has been refrigerated. The corneas are clear. The remains are well-preserved in the absence of embalming.

Evidence of therapeutic intervention

Venipuncture wounds covered with wound dressings are over the left antecubital fossa and left hand and four electrocardiogram electrode pads are affixed to the body.

Postmortem Imaging Studies

Postmortem radiographs are not obtained during the examination.

General

The body mass index is elevated. The distribution of body hair is normal for the gender and reported age. There is no evidence of malnutrition or dehydration. No peculiar odors or color changes of the decedent are noted. There are no adherent foreign materials on the body. There are no unusual vascular markings. There is no visible or palpable adenopathy.

Head

The scalp and soft tissues of the face are free of injury. The periorbital, nasal, and facial bones are intact to palpation. The conjunctivae and periorbital regions are pale. The sclerae are anicteric. The pupils are unremarkable. The nasal vestibules are unremarkable. The lips, gums, tongue, and buccal mucosa, where seen, appear free of injury and significant natural disease. The external ears are normally formed and positioned. The mastoid and mandibular regions are unremarkable.

Neck

The neck is of normal configuration; there is no crepitation with manipulation or subcutaneous emphysema. There are no palpable masses of the neck. There is no tracheal deviation.

Torso

The thorax is symmetrical and normal in configuration. The breasts are of normal adult female configuration, and there are no palpable masses. The nipples are pierced, and white metal barbells are within the piercings; they are left in place. The abdomen is soft. The cervical, supraclavicular, axillary, and inguinal regions are free of palpable adenopathy. The distribution of body hair is appropriate for the reported age. The external genitalia are of normal female conformation, and there are no external lesions.

The perineum and perianal areas are unremarkable. The lower back and buttocks are free of significant abnormalities.

Upper Extremities

The upper extremities are symmetrical and appropriately developed for the reported age. All digits are present.

Lower Extremities

The lower extremities are symmetrical and appropriately developed for the reported age. All digits are present. Blue colored polish is in the toenails.

Evidence of Injury

None noted.

Internal Examination

Torso

Evisceration/Dissection Method

The organs of the thoracic, abdominal and pelvic cavities are removed using the Virchow technique (individually).

Chest and Abdomen- Walls and Cavities

The body is opened by means of the usual "Y" incision. The subcutaneous fat and musculature are normal and free of injury. The sternum and chest plate are intact. Prior to their removal, the viscera of the thoracic, abdominal and pelvic cavities are examined in situ and occupy their normal sites. The serous surfaces are smooth and glistening. Approximately 250 cc of blood are in the rectouterine pouch. There are no significant fluid accumulations in the pericardial sac and pleural cavities. There are no abnormal masses present. The diaphragmatic leaves are normally situated. The margins of the liver and spleen are in proper relationship to their costal margins. The weights of the organs are as follows and, unless specified below, show no additional evidence of congenital or acquired disease.

Organ Weights

Heart - 310 grams

Right lung - 400 grams

Left lung - 310 grams

Spleen - 180 grams

Liver - 1570 grams

Right kidney - 100 grams

Left kidney - 120 grams

Cardiovascular System

Heart:

The heart has a normal appearance. The coronary arteries have a normal anatomic distribution, and multiple cross sections through the coronary arteries show no significant narrowing of lumina and no evidence of thrombosis. The epicardium is smooth and glistening. There is a normal amount of epicardial fat and its distribution is normal. The great vessels enter and leave the heart in a normal manner. The cardiac chambers have a normal configuration. The septa are intact, and there are no congenital abnormalities. The myocardium is of normal consistency and appearance. The left and right ventricles are 1.0 centimeters and 0.2 centimeters thick, respectively. The interventricular septum is 1.0 centimeters thick. The heart valves are thin, pliable, and delicate, and are free of deformity. Valve circumferences are as follows: tricuspid valve = 11 centimeters, pulmonic valve = 6 centimeters, mitral valve = 10 centimeters, and aortic valve = 5 centimeters.

Aorta and its major branches:

The thoracoabdominal aorta and its principal branches are patent throughout. There are no thrombi, areas of erosion, or zones of significant narrowing present. The carotid arteries are pliable and patent.

Venae cavae and their major tributaries:

The superior and inferior venae cavae and their major tributaries are patent throughout. The deep veins of the lower extremities are dissected, and thrombi are not identified. No areas of extrinsic or intrinsic stenosis are present.

Respiratory System

The major bronchi have a normal caliber and are free of obstruction. The right and left lungs have a normal lobar configuration. The visceral pleura is smooth and glistening and mottled mildly with black streaks. There are no subpleural emphysematous bullae. Soft red variegated cylindrical clots are within the left pulmonary arteries. The lungs are sub-crepitant throughout. The parenchyma is congested. The cut surfaces of the lungs exude a small volume of blood-tinged fluid with moderate pressure.

Digestive System

The esophagus is free of lesions. The stomach has a normal configuration. The serosa is smooth and glistening. The wall is of normal thickness and the mucosa is thrown into rugal folds. There are no areas of ulceration. The stomach contains 5 cc of beige liquid. The duodenum is free of ulceration and other intrinsic lesions. The remainder of the small bowel, the colon, and the rectum are normal in appearance. The appendix is present and is unremarkable.

Hepatobiliary System and Pancreas

Liver:

The capsule is smooth and glistening. The liver configuration is normal. Multiple cross sections through the liver reveal a normal parenchyma.

Gallbladder:

The gallbladder is mildly distended. The wall is thin and the mucosa is bile-stained. It contains approximately 80 mL of bile. No calculi are present.

Pancreas:

The pancreas is soft and normally lobulated. Multiple cross sections through the pancreas reveal normal tan-pink parenchyma without intrinsic lesions. The main pancreatic duct is probe patent.

Reticuloendothelial System

The spleen has a normal configuration. The capsule is blue-gray and smooth, without areas of thickening. On section, the splenic pulp is of normal consistency and appearance. No abnormal lymph nodes are encountered. Lymph nodes of the mediastinal, and abdominal areas appear normal. There is mild anthracosis of the pulmonary hilar lymph nodes. Where bone marrow is seen, it is unremarkable. The thymus is involute.

Urogenital System

Kidneys and Ureters:

The right and left kidneys are similar. The capsules strip with ease to reveal smooth subcapsular surfaces. On section, the renal cortices are of normal thickness and the cortico-medullary demarcations are distinct. The pelvocalyceal systems are normal in appearance. The ureters are unremarkable.

Bladder:

The bladder is of normal configuration. The mucosa is intact and free of ulcerations or other lesions. It contains 18 mL of cloudy urine.

Gynecological system:

The vaginal mucosa is smooth, tan, and free of lesions. The cervical os and cervical mucosa are unremarkable. The endometrial cavity is of normal post-partum configuration and is occupied by clotted blood. An intrauterine contraceptive device embedded within the clot material is identified. The endometrium is hemorrhagic. The myometrium appears thickened, consistent with the reported history of recent pregnancy. A 4.0 cm full-thickness perforation of the posterior lower uterine segment is identified. There are no parametrial lesions. The fallopian tubes are thin-walled, pliable, and free of lesions. The ovaries are symmetrical and unremarkable. The gynecological system is retained in formalin to facilitate additional analysis, if necessary.

Endocrine Organs

No abnormalities are present in the pituitary, thyroid or adrenal glands.

Head and Brain:

The scalp is reflected using the standard intermastoidal incision. The cranial contents are examined in situ as the calvarium is removed and as the dura is reflected.

Weight: 1080 grams

The scalp shows no evidence of contusions or galeal hemorrhages. The skull is intact. The dura is smooth and glistening. There are no subdural blood accumulations. The convexities of the cerebral hemispheres are symmetrical. The leptomeninges are thin and transparent. The subarachnoid space does not contain any hemorrhage. The cerebrum presents mild flattening of the gyri without evidence of subfalcial, uncal, or cerebellar tonsillar herniation. The major cerebral arteries show no significant atherosclerosis. There are no congenital anomalies of the cerebral arteries. The roots of the cranial nerves are unremarkable. Serial coronal sections through the cerebral hemispheres show a grossly normal cortical ribbon and underlying white matter. The basal ganglia and diencephalon show no gross abnormalities. Serial cross sections through the brainstem and sagittal sections through the cerebellum fail to show any gross lesions or abnormalities. The ventricular system is symmetrical and of normal size and configuration. After removal of the brain, the base of the skull does not demonstrate any fractures.

Neck and Pharynx:

The skin of the neck is dissected up to the angle of the mandible. There is no evidence of soft tissue trauma to the major airways or vital structures of the lateral neck compartments. The neck organs are excised *en bloc* and examined separately. The larynx and trachea have a normal caliber and are free of obstruction. The laryngeal mucosa is soft and free of lesions. The tracheal mucosa is soft and free of lesions. The paravertebral musculature is unremarkable. The cervical spine, hyoid bone, and tracheal cartilage are intact.

Musculoskeletal:

The axial skeleton and appendicular skeleton show no abnormalities. The exposed musculature is unremarkable. The anterior cervical spine and atlanto-occipital joint are stable to manipulation.

Spinal Cord:

Serial cross sections through a small portion of the proximal cervical spinal cord show no gross abnormalities.

Other Procedures

1. Photographs for identification and documentation purposes are obtained.
2. Tissue samples are retained in formalin.

3. Tissue samples are placed in cassettes for processing to slides for microscopic examination.
4. Blood is submitted for a postmortem drug screen.
5. Urine is submitted for a postmortem drug screen.
6. Vitreous fluid is obtained for analysis, if indicated.
7. Fingerprints are obtained and are retained in this office.
8. Blood is placed on a DNA card and is retained for analysis, if indicated.
9. Blood is collected in a sterile fashion and submitted for microbiologic evaluation.

Slide Block Index

- A- Representative section, right lung
- B- Representative section, left lung with blood clot
- C- Representative sections, left and right ventricular myocardium
- D- Representative section, interventricular septum
- E- Representative sections, right kidney and liver
- F- Representative section, left kidney
- G- Representative sections, right hippocampus and cerebellum
- H- Representative sections, left hippocampus and cerebellum
- I- Representative section, lower uterine segment adjacent to rupture site
- J- Representative section, myometrium, posterior uterine wall
- K- Representative section, myometrium, anterior uterine wall
- L- Representative sections, uterine veins

Microscopic Descriptions

Heart

- Focal subendocardial contraction band necrosis, right ventricular myocardium and subendocardial interventricular septum
- Moderate myocyte hypertrophy and interstitial fibrosis

Lungs

- Vascular congestion
- Acellular, lightly eosinophilic material within alveoli, diffuse
- Thromboemboli with early organization
- Negative for significant polarizable debris

Liver

- Vascular congestion

Kidneys

- Hyaline tubular debris
- Focal tubular autolysis with discernable areas of acute tubular necrosis

Lower uterine segment

- Inflamed decidua and hemorrhage
- Implantation site

Myometrium

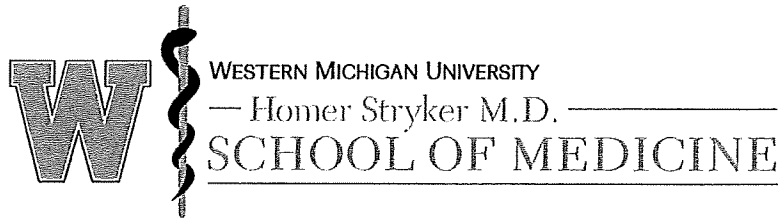
- Inflamed decidua and hemorrhage

Uterine veins

- Aggregated platelets and red blood cells

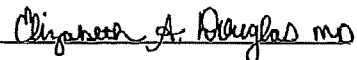
Central Nervous System

- Vascular congestion
- Acellular expansion of neuropil



Examination and Investigative Findings

- I. Complications of intrauterine pregnancy
 - i) Pulmonary emboli
 - a. Uterine vein thrombi
 - b. Deep leg vein dissection negative for thrombi
 - ii) Uterine perforation
 - a. Recent early vacuum aspiration, circa 06/30/2016 (clinical history)
 - b. Recent intrauterine contraception placement, circa 06/30/2016 (clinical history)
 - c. Full thickness perforation of the lower uterine segment with hemoperitoneum (250 cc)
- II. Postmortem toxicology
 - i) Heart blood
 - a. Methadone- 206 ng/mL
 - b. Gabapentin- 2.8 mcg/mL
 - c. Pregabalin- 6.8 mcg/mL
 - ii) Urine drug screen positive for:
 - a. Methadone
 - b. Morphine
 - iii) Query of the Michigan Automated Prescription System does not return a record of a prescription for methadone in the decedent's name
 - iv) Review of available medical records does not disclose a record of methadone administration during admission to the emergency department
- III. Mild cerebral and pulmonary edema
- IV. Postmortem blood cultures negative for growth
- V. Postmortem vitreous electrolytes within normal limits



Elizabeth A. Douglas, M.D.

March 1, 2017