



**ARMED FORCES INSTITUTE OF PATHOLOGY**  
**Office of the Armed Forces Medical Examiner**  
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Rockville, MD 20850  
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**FINAL AUTOPSY REPORT**

Name: (b)(6)-4  
National Detainee Reporting System: (b)(6)-4  
Date of Birth: 1 January 1962  
Date of Death: 14 June 2004  
Date of Autopsy: 19 June 2004  
Date of Report: 13 October 2004

Autopsy No.: ME04-434  
AFIP No.: 2931951  
Rank: Iraqi civilian  
Place of Death: Abu Ghraib, Iraq  
Place of Autopsy: Baghdad, Iraq

**Circumstances of Death:** This 42 year-old male Iraqi civilian was in US custody at the Baghdad Central Confinement Facility in Abu Ghryeb, Iraq. By report, he began making gasping sounds, which awoke another detainee. The decedent was found to be unresponsive and pulseless, and resuscitation efforts were unsuccessful.

**Authorization for Autopsy:** The Armed Forces Medical Examiner, IAW 10 USC 1471.

**Identification:** Visual and documentation accompanying the body; fingerprints and DNA sample obtained

**CAUSE OF DEATH:** Undetermined

**MANNER OF DEATH:** Undetermined

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**FINAL AUTOPSY DIAGNOSES:**

- I. No evidence of any definitive significant trauma
  - a. Minor contusions of abdomen and left arm
  
- II. Cardiovascular Findings (AFIP Cardiovascular Pathology consultation)
  - a. Mild coronary atherosclerosis
    - i. 40% luminal narrowing of proximal left anterior descending coronary artery
    - ii. 20% luminal narrowing of proximal left circumflex coronary artery
    - iii. 30% luminal narrowing of proximal right coronary artery by intimal thickening
  - b. Moderate dysplasia of atrioventricular nodal artery
    - i. No increased fibrosis of septum
  
- III. Additional Findings; probable artifacts of resuscitation or freezing of body
  - a. Film of peritoneal blood of upper abdomen, < 50 ml
  - b. Hepatic findings
    - i. Subcapsular accumulation of blood over right lobe of liver; capsule grossly intact
    - ii. Parenchymal clefts and focal disruption of right lobe of liver
      1. Histologically, no inflammatory response, fibrin or clot formation, or other evidence of any vital reaction
  
- IV. Medical Intervention
  - a. Endotracheal tube in place
  - b. Intravenous catheter in left antecubital fossa
  - c. One adhesive EKG tab on abdomen
  
- V. Early to moderate decomposition
  - a. Marbling of torso, arms and legs
  - b. Marked facial and scalp congestion and dark discoloration
  - c. Corneal opacification
  
- VI. Toxicology (AFIP)
  - a. Volatiles: Heart blood and urine negative for ethanol
  - b. Cyanide: Heart blood negative
  - c. Drugs: Heart blood negative for screened medications and drugs of abuse

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**EXTERNAL EXAMINATION**

The body is that of a well developed, well-nourished male clad in a pair of yellow "Reebok" shorts, a pair of grey drawstring pants, and a previously cut, white t-shirt. The body weighs approximately 150 pounds, is 67" in height and appears compatible with the reported age of 42 years. The body is cold, the temperature that of the refrigeration unit. Rigor is waning. Lividity is present and fixed on the posterior surface of the body, except in areas exposed to pressure, and over the face and head.

Early to moderate decompositional changes are present, consisting of diffuse marbling of the back, upper arms and legs; early marbling of the sides of the abdomen; partial corneal opacification; and dark discoloration and congestion of the face, scalp and neck.

The scalp is covered with black hair with frontal and parietal alopecia but otherwise in a normal distribution, averaging 3 cm in length. Facial hair consists of a dark mustache and full beard. The irides appear dark, but are partially obscured by corneal clouding. The sclerae and conjunctivae are congested, especially of the left eye, but there are no petechiae. The earlobes are not pierced. The external auditory canals, external nares and oral cavity are free of foreign material and abnormal secretions. The nasal skeleton is palpably intact. The lips are without evident injury. The teeth are natural and in good condition.

Examination of the neck reveals the trachea to be midline and mobile. The chest is symmetric and well developed. No injury of the ribs or sternum is evident externally. The abdomen is slightly protuberant and soft. There is a 2 x 1 cm dark macule on the mid right side of the back.

The extremities are well developed with normal range of motion. There is a 2 x 1 cm hyperpigmented patch on the back of the right wrist. There are thick calluses on lateral aspect of the right ankle and on the soles of the feet, which are also dirt stained. The fingernails are short and intact. No tattoos are noted. The external genitalia are those of a normal adult circumcised male. The testes are descended and free of masses. Pubic hair is partially shaved but present in a normal distribution. The buttocks and anus are unremarkable.

There is an identification band with the name and photograph of the decedent around the left wrist, and there is an identification tag with the name of the decedent and date of death on the first toe of the left foot. There are creases around the lateral aspects of the ankles consistent with postmortem securing of the body.

**EVIDENCE OF THERAPY**

There is an endotracheal tube in place secured with white tape around the head, and there is an adhesive EKG tab on the lower right side of the abdomen. There is a needle puncture mark with surrounding ecchymosis in the right antecubital fossa, and there is an intravenous catheter secured with white tape in the left antecubital fossa.

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**EVIDENCE OF INJURY**

There is a 2 x 0.3 cm red contusion just above the umbilicus, and there is a 3.5 x 2.5 cm red contusion of the lower right aspect of the abdomen. On the anterior (palmar) aspect of the left lower forearm and wrist, there is a 4 x 3 cm red brown contusion, and there is a 3 x 2 cm contusion of the left thenar region.

On external examination of the body, there is no other evidence of trauma.

**INTERNAL EXAMINATION****BODY CAVITIES:**

The body is opened by the usual thoraco-abdominal incision, and the chest plate is removed. No adhesions or abnormal collections of fluid are present in the pleural or pericardial cavities. There is a film of blood in the upper peritoneal cavity, less than 50 ml. No adhesions or abnormal collections of fluid are present in the peritoneal cavity. All body organs are present in the normal anatomical position. The subcutaneous fat layer of the abdominal wall is 2 cm thick. There is no internal evidence of blunt force or penetrating injury to the thoraco-abdominal region.

**HEAD: (CENTRAL NERVOUS SYSTEM)**

The scalp is reflected, and there is marked subgaleal congestion and fixed lividity, but no subgaleal hemorrhage or skull fractures found. The calvarium of the skull is removed. The dura mater and falx cerebri are intact. There is no epidural or subdural hemorrhage present. The leptomeninges are thin and delicate. The cerebrospinal fluid is dark with decompositional change, most prominent over the occiput; however, there is no evidence of any subarachnoid hemorrhage. The cerebral hemispheres are symmetrical. The structures at the base of the brain, including cranial nerves and blood vessels, are intact. Coronal sections through the cerebral hemispheres revealed no lesions, and there is no evidence of infection, tumor, or trauma. Transverse sections through the brain stem and cerebellum are unremarkable. The dura is stripped from the basilar skull, and no fractures are found. The atlanto-occipital joint is stable. The brain weighs 1455 grams.

**NECK:**

Examination of the soft tissues of the neck, including strap muscles, thyroid gland and large vessels, reveals no abnormalities. The anterior strap muscles of the neck are homogeneous and red-brown, without hemorrhage. The thyroid cartilage and hyoid bone are intact. The larynx is lined by intact white mucosa and is unobstructed. The thyroid gland is symmetric and red-brown, without cystic or nodular change. There is no evidence of infection, tumor, or trauma, and the airway is patent. Incision and dissection of the posterior neck demonstrates no deep paracervical muscular injury, hemorrhage, or fractures of the dorsal spinous processes.

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**CARDIOVASCULAR SYSTEM:**

See "Cardiovascular Pathology Report" below. The pericardial surfaces are smooth, glistening and unremarkable; the pericardial sac is free of significant fluid and adhesions. A moderate amount of epicardial fat is present. The coronary arteries arise normally in a right dominant pattern and follow the usual distribution. There is mild atherosclerosis with focal areas of luminal stenosis of the coronary arteries, without evidence of thrombosis. The myocardium is dark red-brown, firm and unremarkable; the atrial and ventricular septa are intact. The left ventricle is 1.5 cm in thickness and the right ventricle is 0.4 cm in thickness. The aorta and its major branches arise normally, follow the usual course and are widely patent, free of significant atherosclerosis and other abnormality. The venae cavae and their major tributaries return to the heart in the usual distribution and are free of thrombi. The heart weighs 435 grams.

**RESPIRATORY SYSTEM:**

The upper airway is clear of debris and foreign material; the mucosal surfaces are smooth, yellow-tan and unremarkable. The pleural surfaces are smooth, glistening and unremarkable bilaterally. The pulmonary parenchyma is red-purple and edematous, exuding a moderate amount of bloody fluid; no focal lesions are noted. The pulmonary arteries are normally developed, patent and without thrombus or embolus. The right lung weighs 605 grams; the left 480 grams.

**LIVER & BILIARY SYSTEM:**

The hepatic capsule is smooth, glistening and intact, covering dark red-brown, moderately congested parenchyma. There is focal accumulation of subcapsular blood and underlying parenchymal disruption, with clefts and splitting of the parenchyma without associated hemorrhage, consistent with resuscitation or postmortem changes. The gallbladder contains 5 ml of green-brown, mucoid bile; the mucosa is velvety and unremarkable. The extrahepatic biliary tree is patent, without evidence of calculi. The liver weighs 1940 grams.

**ALIMENTARY TRACT:**

The tongue exhibits no evidence of recent injury. The esophagus is lined by gray-white, smooth mucosa. The gastric mucosa is arranged in the usual rugal folds and the lumen contains a film of dark fluid. The small and large bowel are unremarkable. The pancreas has a normal pink-tan lobulated appearance and the ducts are clear. The appendix is present and is unremarkable.

**GENITOURINARY SYSTEM:**

The renal capsules are smooth and thin, semi-transparent and strip with ease from the underlying smooth, red-brown cortical surfaces. The cortices are sharply delineated from the medullary pyramids, which are red-purple to tan and unremarkable. There is a single dark calculus in the right renal pelvis. The calyces, pelves and ureters are otherwise unremarkable. White bladder mucosa overlies an intact bladder wall. The urinary bladder contains 20 ml of cloudy, yellow urine. The prostate gland is symmetrical with lobular, yellow-tan parenchyma and no nodules or masses. The seminal vesicles are unremarkable. The testes are free of mass lesions, contusions, or other abnormalities. The right kidney weighs 210 grams; the left 220 grams.

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**RETICULOENDOTHELIAL SYSTEM:**

The spleen has a smooth, intact capsule covering red-purple, moderately firm parenchyma; the lymphoid follicles are unremarkable. The regional lymph nodes appear normal. The spleen weighs 260 grams.

**ENDOCRINE SYSTEM:**

The pituitary, thyroid and adrenal glands are unremarkable.

**MUSCULOSKELETAL SYSTEM:**

Muscle development is normal. No bone or joint abnormalities are noted.

**MICROSCOPIC EXAMINATION**

**HEART:** See "Cardiovascular Pathology Report" below.

**BRAIN:** See "Neuropathology Report" below.

**LUNGS:** The alveolar spaces and small air passages are expanded and contain no significant inflammatory component or edema fluid. The alveolar walls are thin and mildly congested. The arterial and venous vascular systems are normal. The peribronchial lymphatics are unremarkable.

**LIVER:** There are numerous clefts and splits of the parenchyma, focally with lakes of red blood cells. However, there is no inflammatory response or evidence of organization of the hemorrhage, with no fibrin or clot formation. The hepatic architecture is otherwise intact. The portal areas show no increased inflammatory component or fibrous tissue. The hepatic parenchymal cells are well-preserved with mild focal steatosis but no evidence of cholestasis, or sinusoidal abnormalities.

**SPLEEN:** The capsule and white pulp are unremarkable. There is moderate congestion of the red pulp.

**ADRENALS:** The cortical zones are distinctive and well supplied with lipid. The medullae are not remarkable.

**KIDNEYS:** The subcapsular zones are unremarkable. The glomeruli are mildly congested without cellular proliferation, mesangial prominence, or sclerosis. The tubules are well preserved. There is no interstitial fibrosis or significant inflammation. There is no thickening of the walls of the arterioles or small arterial channels. The transitional epithelium of the collecting system is normal.

**TESTES:** Unremarkable

**THYROID GLAND:** Unremarkable

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**CARDIOVASCULAR PATHOLOGY REPORT**

Department of Cardiovascular Pathology, AFIP:

**"AFIP DIAGNOSIS: ME04-434**

1. Moderate dysplasia of atrioventricular nodal artery
2. Mild coronary artery atherosclerosis

**History:** 42 year old male Iraqi detainee, 67", 150 lbs, death in custody

**Heart:** 435 grams (predicted normal value 322 grams, upper limit 425 grams for a 150 lbs male); normal epicardial fat; closed foramen ovale; left ventricular hypertrophy: left ventricular cavity diameter 35 mm, left ventricular free wall thickness 15 mm, ventricular septum thickness 15 mm; right ventricle thickness 4 mm, without gross scars or abnormal fat infiltrates; grossly unremarkable valves and endocardium; enlarged membranous septum; no gross myocardial fibrosis or necrosis; histologic sections show mild left ventricular myocyte hypertrophy, otherwise unremarkable

**Coronary arteries:** Normal ostia; right dominance; mild atherosclerosis: 40% luminal narrowing of proximal left anterior descending, 20% narrowing of proximal left circumflex, and 30% narrowing of proximal right coronary artery by pathologic intimal thickening

**Conduction System:** The sinoatrial node is unremarkable. The sinus nodal artery shows minimally increased proteoglycan. The atrioventricular (AV) nodal artery shows moderate dysplasia in its posterior approaches to the compact AV node and in its penetrating branches in the ventricular septum, but fibrosis is not significantly increased in the septum. The penetrating bundle is centrally located between the node and ventricular septum. The right proximal bundle branch is unremarkable. The left proximal bundle is not seen in these sections.

**Comment:** We do not see an obvious cardiac cause of death. Moderate dysplasia of the atrioventricular nodal artery is often associated with increased fibrosis in the crest of the ventricular septum, representing a potential substrate for cardiac arrhythmia. However, increased fibrosis is not seen in this case. We cannot exclude the possibility of cardiac arrhythmia related to various ion channelopathies or coronary vasospasm."

**NEUROPATHOLOGY REPORT**

Department of Neuropathology and Ophthalmic Pathology, AFIP:

"We reviewed multiple small fragments of dura, cerebrum, brainstem and cerebellum submitted in formalin in reference to this case. No gross abnormalities are present. Representative sections were processed in paraffin and sections stained with H&E, and immunohistochemical methods for beta amyloid precursor protein (BAPP), and glial fibrillary acidic protein (GFAP). This material was reviewed in conference by the staff of Neuropathology. Sections show few neurons within the cerebral cortex with shrunken or vacuolated cytoplasm and hyperchromatic nuclei, findings interpreted as non-specific acute neuronal injury. Stains for BAPP and GFAP are negative."

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**ADDITIONAL PROCEDURES**

- Documentary photographs are taken by OAFME photographers
- Specimens retained for toxicologic testing and/or DNA identification are: vitreous fluid, heart blood, urine, and bile
- The dissected organs are forwarded with the body
- Personal effects are released to the appropriate mortuary operations representative

**OPINION**

Based on available investigation and complete autopsy examination, no definitive cause of death for this 42 year-old male Iraqi civilian in US custody in Iraq could be determined. There is no evidence of any significant trauma to explain the death. There is a film of blood in the upper abdomen, and a small accumulation of subcapsular blood over the right lobe of the liver with associated subcapsular parenchymal disruption. However, the minimal amount of hemorrhage, lack of capsular laceration, and microscopic lack of vital reaction indicates this is likely a post-mortem artifact, either from resuscitation efforts or freezing of the body. There are non-specific cardiac findings, including moderate dysplasia of the atrioventricular nodal artery. However, there is no associated increased septal fibrosis, which can be a potential substrate for cardiac arrhythmia. There is also mild coronary artery atherosclerosis, but no luminal narrowing greater than 40% was found. A cardiac arrhythmia related to various ion channelopathies or coronary vasospasm cannot be excluded.

Therefore, the cause of death is best classified as undetermined, and the manner of death is undetermined.

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LtCol, USAF, MC, FS  
First Chief Deputy Medical Examiner



DEPARTMENT OF DEFENSE  
ARMED FORCES INSTITUTE OF PATHOLOGY  
WASHINGTON, DC 20306-6000

REPLY TO  
ATTENTION OF

AFIP-CME-T

PATIENT IDENTIFICATION

AFIP Accession# Number      Sequence  
2931951                              01

TO:

Name

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OFFICE OF THE ARMED FORCES MEDICAL  
EXAMINER  
ARMED FORCES INSTITUTE OF PATHOLOGY  
WASHINGTON, DC 20306-6000

SSAN:                              Autopsy: ME04-434  
Toxicology Accession #: 043002  
Date Report Generated: June 30, 2004

CONSULTATION REPORT ON CONTRIBUTOR MATERIAL

AFIP DIAGNOSIS              REPORT OF TOXICOLOGICAL EXAMINATION

Condition of Specimens: GOOD

Date of Incident:              Date Received: 6/22/2004

**VOLATILES:** The HEART BLOOD AND URINE were examined for the presence of ethanol at a cutoff of 20 mg/dL. No ethanol was detected.

**CYANIDE:** There was no cyanide detected in the heart blood. The limit of quantitation for cyanide is 0.25 mg/L. Normal blood cyanide concentrations are less than 0.15 mg/L. Lethal concentrations of cyanide are greater than 3 mg/L.

**DRUGS:** The BLOOD was screened for amphetamine, antidepressants, antihistamines, barbiturates, benzodiazepines, cannabinoids, cocaine, dextromethorphan, lidocaine, narcotic analgesics, opiates, phencyclidine, phenothiazines, sympathomimetic amines and verapamil by gas chromatography, color test or immunoassay. The following drugs were detected:

None were found.

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Certifying Scientist, Forensic Toxicology Laboratory  
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Director, Forensic Toxicology Laboratory  
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