ARMED FORCES INSTITUTE OF PATHOLOGY
Office of the Armed Forces Medical Examiner
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FINAL AUTOPSY REPORT

Name: Mohammad, Sher
SSAN: n/a
Date of Birth: unknown
Date of Death: (b)(6) 2004
Date of Autopsy: 30 September 2004
Date of Report: 14 April 2005

Autopsy No.: (b)(6)
AFIP No (b)(6)
Rank: Civilian
Place of Death: Salerno, Afghanistan
Place of Autopsy: Bagram, Afghanistan

Circumstances of Death: This adult male civilian, presumed Afghanistan national, was found dead while at the Regional Interrogation Facility, Salerno Firebase, Afghanistan. By report, he in processed at the RIF on (b)(6) 2004, and the following day, he complained of various cold symptoms and body aches related to a snake or insect bite. On examination by medical personnel, his vital signs were normal. Several hours later, he was found to be unresponsive and not breathing, and he was pronounced dead at the local medical facility.

Authorization for Autopsy: Office of the Armed Forces Medical Examiner, IAW 10 USC 1471

Identification: Visual, per detention facility records; postmortem fingerprints and DNA profile obtained

CAUSE OF DEATH: Atherosclerotic Cardiovascular Disease

MANNER OF DEATH: Natural

FINAL AUTOPSY DIAGNOSES:

I. Atherosclerotic cardiovascular disease (AFIP Cardiovascular Pathology consultation)
   a. Moderate coronary atherosclerosis
      i. Left main coronary artery: 40% luminal narrowing by pathologic intimal thickening
      ii. Left anterior descending artery (LAD): 50% narrowing of proximal LAD by pathologic intimal thickening
      iii. Left circumflex artery (LCA): 20% narrowing of proximal LCA
      iv. Right coronary artery (RCA)
         1. 20% narrowing of proximal RCA
         2. 70% narrowing of mid RCA by smooth muscle and proteoglycan rich neointima, consistent with healed plaque erosion
   b. Cardiomegaly with left ventricular hypertrophy
      i. Heart, 470 gm (predicted normal value 343 gm, upper limit 453 gm)
      ii. Left ventricular free wall thickness, 15 mm
      iii. Ventricular septum thickness, 15 mm

II. Evidence of restraint
   a. White plastic zip-tie "Flexicuff" around right wrist with no underlying contusion or abrasion

III. Evidence of injury
   a. Minor abrasions of chest, upper back, upper arms, and right knee
   b. No internal evidence of trauma

IV. Additional findings
   a. Neuropathology consultation (AFIP Department of Neuropathology)
      i. No gross abnormalities, brain 1370 gm
      ii. Microscopically, minimal non-specific findings
         1. Two small foci of chronic inflammatory cells in the medulla; immunohistochemically, rare scattered lymphocytes
         2. No microorganisms or viral inclusions identified
   b. Globoid liver with rounded borders, 1660 gm
      i. Hepatic pathology consultation, AFIP
         1. Moderate vascular congestion
         2. Mild "dusting" of hepatocytes with hemosiderin
         3. No specific lesions identified
   c. Pulmonary edema and congestion; right lung 764 gm, left lung 614 gm
   d. Simple renal cysts

V. Toxicology (AFIP)
   a. Volatiles: Blood and vitreous fluid negative for ethanol
   b. Drugs: Urine negative for screened medications and drugs of abuse

EXTERNAL EXAMINATION

The body is that of a well-developed, well-nourished unclad Caucasian male. On top of the body, there is a pair of tan, drawstring waist pants and a previously cut white sleeveless undershirt. The body weighs approximately 180 pounds, is 67" in height and appears approximately 40-60 years of age. The body temperature is cold, that of the refrigeration unit. Rigor is present to an equal degree in all extremities. Lividity is present and fixed on the posterior surface of the body, except in areas exposed to pressure, and there is moderate facial congestion.

The scalp is covered with dark brown hair averaging 4 cm in length with a slightly receding hairline in the temporal regions. Facial hair consists of a dark mustache and dark full beard. The irides are brown, and the corneae are slightly cloudy. The sclerae and conjunctivae are congested, but free of 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.

The neck is straight and the trachea is 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. Healed surgical scars of the abdomen are not noted. The extremities are well developed with normal range of motion. The fingernails are intact. The soles of the feet are calloused and lightly dirt stained. There is a thick callous on the anterior aspect of the left ankle, and the skin of the left knee is thickened and hyperkeratotic. There is a 3 x 0.1 cm pale linear scar on the back of the right forearm, and there are multiple pale scars on the back of the right hand, < 0.2 cm each. There is a 1 x 1 cm scar on the lateral aspect of the right ankle. Tattoos are not noted, and needle tracks are not observed. The external genitalia are those of a normal adult uncircumcised male. The testes are descended and free of masses. The pubic hair is present in a normal distribution. The buttocks and anus are unremarkable.

EVIDENCE OF THERAPY

There is a needle puncture mark of the right lower aspect of the neck, just above the clavicle, covered with a piece of white tape and gauze, and there is underlying associated soft tissue hemorrhage. There is no other evidence of medical intervention.

EVIDENCE OF INJURY

The ordering of the following injuries is for descriptive purposes only and is not intended to imply order of infliction or relative severity.

There is a white plastic zip-tie strap around the right wrist, and there is blood coming from the right external auditory canal.

There is a 2 x 0.1 cm linear abrasion on the lower right side of the chest, and there is a healing 4 x 0.2 cm linear abrasion of the upper left side of the back. There is a 2.5 x 0.1 cm abrasion on the lateral aspect of the upper left arm, and there is a 3 x 0.1 cm healing abrasion on the medial aspect of the right elbow. There is a 2 x 1 cm abrasion on the lateral aspect of the right knee.

On internal examination of the head, chest and abdomen, there is no evidence of injury.

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 any of the body cavities. All body organs are present in the normal anatomical position. The vertebral bodies are visibly and palpably intact. The subcutaneous fat layer of the abdominal wall is 3 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 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 clear. 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. The ventricles are of normal size. 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 1370 grams. See "Neuropathology Report" below.

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.

CARDIOVASCULAR SYSTEM:
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. The chambers and valves exhibit the usual size-position relationship and are unremarkable. 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 470 grams. See "Cardiovascular Pathology Report" below.

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, 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 764 grams; the left 614 grams.

LIVER & BILIARY SYSTEM:
The liver is globoid with very rounded margins. The hepatic capsule is smooth, glistening and intact, covering dark red-brown, moderately congested and slightly firm parenchyma with no focal lesions noted. The gallbladder contains 8 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 1660 grams.

ALIMENTARY TRACT:
The tongue is free of bite marks, hemorrhage, or other injuries. The esophagus is lined by gray-white, smooth mucosa. The gastric mucosa is arranged in the usual rugal folds and the lumen contains 20 ml of 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 are multiple smooth walled simple cysts, up to 1 cm in diameter. The calyces, pelves and ureters are otherwise unremarkable. White bladder mucosa overlies an intact bladder wall. The urinary bladder contains 30 ml of clear, yellow urine. The prostate gland is normal in size, with lobular, yellow-tan parenchyma. The seminal vesicles are unremarkable. The testes are free of mass lesions, contusions, or other abnormalities. The right kidney weighs 170 grams; the left 148 grams.

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 225 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.

LUNGS: The alveolar spaces and small air passages are expanded with focal edema fluid, but no significant inflammatory component. The alveolar walls are thin and moderately congested. The arterial and venous vascular systems are normal. The peribronchial lymphatics are unremarkable.

LIVER: See "Hepatic Pathology Report" below.

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

ADRENALS: The cortical zones are distinctive, and 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.

BRAIN: Multiple sections of brain demonstrate an unremarkable configuration of gray and white matter which is appropriate for age. There is no evidence of atrophy, inflammation, hemorrhage, or neoplasm. See "Neuropathology Report" below.

CARDIOVASCULAR PATHOLOGY REPORT

Department of Cardiovascular Pathology, AFIP:

"AFIP DIAGNOSIS: (b)(6) Moderate coronary atherosclerosis, mid right coronary artery; cardiomegaly with left ventricular hypertrophy

History: 40-50 year old Afghani male detainee, 67", 170 lbs, found dead in US custody

Heart: 475 grams (predicted normal value 343 grams, upper limit 453 grams for a 170 lbs man); normal epicardial fat; closed foramen ovale; normal cardiac chamber dimensions: left ventricular cavity diameter 30 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; fenestrated aortic valve leaflets, otherwise unremarkable

valves and endocardium; no gross myocardial fibrosis or necrosis; histologic sections show mild left ventricular myocyte hypertrophy, otherwise unremarkable

Coronary arteries: Normal ostia; right dominance; moderate atherosclerosis:
Left main coronary artery: 40% luminal narrowing by pathologic intimal thickening
Left anterior descending artery (LAD): 50% narrowing of proximal LAD by pathologic intimal thickening, no other significant narrowing
Left circumflex artery (LCA): 20% narrowing of proximal LCA, no other significant narrowing
Right coronary artery (RCA): 20% narrowing of proximal RCA, 70% narrowing of mid RCA by smooth muscle and proteoglycan rich neointima, consistent with healed plaque erosion; distal RCA and posterior descending artery open."

NEUROPATHOLOGY REPORT

Department of Neuropathology and Ophthalmic Pathology, AFIP:

"This case was reviewed in conference on 7 Apr 05. It was also seen in consultation with the Departments of Infectious and Parasitic Diseases Pathology.

Multiple irregular sections of formalin-fixed brain, 15 x 14 x 1.5 cm in aggregate, and a 4 x 3 cm fragment of grossly unremarkable dura were submitted for review. No significant gross abnormalities were identified in the submitted sections.

Summary of microscopic sections: 1. Basal ganglia. 2. Inferior temporal gyrus. 3. Cingulate gyrus. 4. Thalamus, hypothalamus, and substania nigra. 5. Cerebral cortex. 6. Pons. 7. Medulla. 8. Cerebellum.

The tissue was processed in paraffin; a section prepared from each paraffin block was stained with H&E. Additional sections prepared from selected paraffin blocks were stained with amyloid precursor protein, CD45RB, and CD68.

Microscopic sections of the medulla show two small foci of chronic inflammatory cells. Immunohistochemical staining for CD45RB highlight rare scattered lymphocytes in the medulla. Occasional vessels with widened perivascular spaces containing a few hemosiderin-laden macrophages are also noted. No microorganisms or viral inclusions are identified. These features are minimal and non-specific."

HEPATIC PATHOLOGY REPORT

Department of Hepatic Pathology, AFIP:

"There is moderate vascular congestion. No other specific lesion is identified except for mild "dusting" of hepatocytes with hemosiderin. Cause of death cannot be determined in this section of liver."

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

This adult male Afghanistan detainee died in US custody of atherosclerotic cardiovascular disease, with moderate coronary artery atherosclerosis (70% occlusion of right coronary artery; three vessel disease) and cardiomegaly (enlarged heart, 470 gm) with left ventricular hypertrophy. He also has an unusual, globoid shaped liver; however, no evidence of any chronic or active liver disease was found microscopically. He has evidence of restraint ("flexicuffs" around the right wrist); however, there is no evidence of significant trauma to explain the death.

The manner of death is natural.

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(b)(6) Medical Examiner

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

REPLY TO
ATTENTION OF

AFIP: (b)(6)

TO:

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

PATIENT IDENTIFICATION
AFIP Accessions Number Sequence (b)(6)
Name SHER, MOHAMMAD

SSAN: **Autopsy:** (b)(6)
Toxicology Accession #: (b)(6)
Date Report Generated: October 15, 2004

CONSULTATION REPORT ON CONTRIBUTOR MATERIAL

AFIP DIAGNOSIS **REPORT OF TOXICOLOGICAL EXAMINATION**

Condition of Specimens: GOOD
Date of Incident: **Date Received:** 10/4/2004

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

DRUGS: The **URINE** was screened for amphetamine, antidepressants, antihistamines, barbiturates, benzodiazepines, cannabinoids, chloroquine, cocaine, dextromethorphan, lidocaine, lysergic acid diethylamide, 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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