



ARMED FORCES INSTITUTE OF PATHOLOGY
Office of the Armed Forces Medical Examiner
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 Rockville, MD 20850
 (301) 319-0000



FINAL AUTOPSY REPORT

Name: HAMID, Fadil Jadua	Autopsy No: (b)(6)
Interment Serial (b)(6)	AFIP No (b)(6)
Date of Birth: (b)(6) 1978	Place of Death: Camp Bucca, Iraq
Date of Death (b)(6) 2006	Place of Autopsy: Dover AFB Port Mortuary,
Date of Autopsy: 25 OCT 2006 @ 1230	Delaware
Date of Report: 14 FEB 2007	

Circumstances of Death: (b)(6) was a 28 year-old male, Iraqi National, held as a detainee in Camp Bucca, Iraq. He was discovered unresponsive in his room by cellmates. Resuscitation efforts, including advanced life support measures, were unsuccessful by medical personnel and he was pronounced dead at 1048 (b)(6) 2006.

Authorization for Autopsy: Office of the Armed Forces Medical Examiner, in accordance with Title 10 US Code, Section 1471 (10 USC 1471).

Identification: Positive identification established by investigative agency

CAUSE OF DEATH: Probable Cardiac Arrhythmia Secondary to Concentric Left Ventricular Hypertrophy

MANNER OF DEATH: Natural

AUTOPSY FINDINGS:

- I. A. Heart: 470 grams
 Concentric left ventricular hypertrophy (see cardiac consultation page 5)
 Coronary arteries widely patent
- B. Lungs:
 Bilateral pulmonary edema (combined weight 1450 grams)
- C. No external injuries

II. Toxicological Examination:

- VOLATILES: The blood and urine are negative for ethanol at a cutoff level of 20 mg/dL.
- Peripheral blood contains less than 1% carboxyhemoglobin (COHgb) determined by spectrophotometry with a limit of quantitation of 1%. COHgb saturations of 0-3% are expected for non-smokers and 3-10% for smokers. Saturations above 10% are considered elevated and are confirmed by gas chromatography.
- There is no cyanide detected in the 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 is screened for acetaminophen, amphetamine, antidepressants, antihistamines, barbiturates, benzodiazepines, cannabinoids, chloroquine, cocaine, dextromethorphan, lidocaine, narcotic analgesics, opiates, phencyclidine, phenothiazines, salicylates, sympathomimetic amines and verapamil by gas chromatography, color test or immunoassay. The following drug is detected:
 - Lidocaine is detected in the blood by gas chromatography and confirmed by gas chromatography/mass spectrometry.

EXTERNAL EXAMINATION

The body is that of a well-developed, well-nourished, 70 ½-inches tall, 178 pound Caucasian male who appears older than his reported age of 28 years. Lividity is marked and fixed on the posterior aspect of the body. Rigor is passing and the temperature is cold, that of the refrigerator. An identification tag is around the right great toe.

The scalp is covered with black hair in a normal distribution. Facial hair consists of a black beard. The irides are brown and the pupils are round and equal in diameter. The external auditory canals are clear. The ears are unremarkable. The nares are patent and the lips are atraumatic. The nose and maxillae are palpably stable. The teeth are natural.

The neck is straight, and the trachea is midline and mobile. The chest is symmetric. The abdomen is flat. The genitalia are those of a normal adult circumcised male. The testes are descended and free of masses. Pubic hair is present in a normal distribution. The buttocks and anus are unremarkable.

The upper and lower extremities are symmetric and without clubbing or edema.

CLOTHING AND PERSONAL EFFECTS

The following clothing items are present on the body at the time of autopsy:

- Yellow colored boxer shorts
- Yellow colored t-shirt
- Yellow colored long pants
- Personal effects are not present with the body

MEDICAL INTERVENTION

- Endotracheal intubation
- Intravenous catheters in the right arm and groin
- Foley catheter in the penis
- Cardiac monitor pad on the left upper back

RADIOGRAPHS

- A complete set of postmortem radiographs is obtained and demonstrates no traumatic injuries.

EVIDENCE OF INJURY

There are no external injuries.

INTERNAL EXAMINATION

HEAD: The galeal and subgaleal soft tissues of the scalp are free of injury. The calvarium is intact, as is the dura mater beneath it. There are no skull fractures. Clear cerebrospinal fluid surrounds the 1630gm brain, which has unremarkable gyri and sulci. The atlanto-occipital joint is stable.

The brain is referred for consultation at the AFIP Neuropathology Department and their report follows:

We examined the 1630 gram formalin-fixed brain submitted in reference to this case. Some unremarkable cerebral dura is received; no dural hemorrhage or sinus thrombosis is seen. The leptomeninges are clear with slight congestion; no exudate or hemorrhage is identified. The cerebral hemispheres are symmetric, with mildly compressed gyri that are normal in configuration. No softening or contusion is identified. The cranial nerve stumps are unremarkable. The circle of Willis has a normal configuration. No aneurysm, atherosclerosis, or occlusion is found in the intracranial arteries. The brain stem and cerebellum are externally normal. No subfalcial, transtentorial, or tonsillar herniation is seen. Coronal sections of cerebrum show no abnormalities in cortex, white matter, or deep gray matter nuclei. The lateral and 3rd ventricles are grossly normal. The hippocampi are symmetric and normal in size.

Horizontal sections of the brain stem and cerebellum reveal unremarkable cut surfaces. The substantia nigra and locus ceruleus are normally pigmented. The aqueduct is patent. The 4th ventricle is grossly normal. The spinal cord is not available for examination.

Histological sections: 1. Right superior/middle frontal gyri (superior inked black). 2. Right interior parietal lobule. 3. Right superior/middle temporal gyri at level of mamillary bodies (superior inked black). 4. Bilateral cingulate gyri (left inked black). 5. Right calcarine fissure with basal occipital gyri. 6. Right hippocampus at level of mamillary bodies. 7. Right hippocampus at level of lateral geniculate nucleus. 8. Right caudate/putamen with basal forebrain. 9. Right putamen/pallidum. 10. Bilateral thalamus/hypothalamus at level of mamillary bodies (left inked black). 11. Right thalamus at subthalamic nucleus. 12. Midbrain with substantia nigra (left inked black). 13. Pons (left inked black). 14. Medulla (left inked black). 15. Right cerebellum with dentate nucleus and folia. 16. Medullary-cervical junction (left inked black). 17. Left hippocampus at level of lateral geniculate nucleus. All tissue sections were processed in paraffin; sections were stained with H&E. This material was reviewed in conference by staff of the Department of Neuropathology and Ophthalmic Pathology.

Histological sections show scattered areas of acute neuronal injury in the deeper layers of the cerebral cortex, deep gray matter nuclei, hippocampi (CA1 and dentate gyrus), and cerebellum (Purkinje cells). Hippocampal sclerosis is not identified. A single small focus of perivascular chronic inflammatory cells is noted in the right hippocampus at the level of the mamillary body. Some scattered blood vessels throughout the brain have small numbers of perivascular hemosiderin-laden macrophages.

The brain shows acute neuronal injury, a non-specific finding that is commonly associated with hypoxic-ischemic change. Features diagnostic for malformation, storage disease, infection or neoplasm are not identified. No contusion or acute hemorrhage is seen.

NECK: The anterior strap muscles of the neck are homogenous and red-brown, without hemorrhage. The thyroid cartilage and hyoid bone are intact. The larynx is lined by intact white mucosa. The thyroid is symmetric and red-brown, without cystic or nodular change. The tongue is free of bite marks, hemorrhage, or other injuries.

Incision and dissection of the posterior neck demonstrates no deep paracervical muscular injury and no cervical spine fractures.

BODY CAVITIES: The ribs, sternum, and vertebral bodies are visibly and palpably intact. No excess fluid is in the pleural, pericardial or peritoneal cavities. The organs occupy their usual anatomic positions.

RESPIRATORY SYSTEM: The right and left lungs are markedly edematous and weigh 730 and 720 gm, respectively. The external surfaces are smooth and deep red-purple. The pulmonary parenchyma is diffusely congested and edematous. No mass lesions or areas of consolidation are present.

HAMID (b)(6)

CARDIOVASCULAR SYSTEM: The 470 gm heart is mildly enlarged and is contained in an intact pericardial sac. The heart is referred for consultation at the CV Path Institute and their report follows:

DIAGNOSIS: (b)(6) **Concentric left ventricular hypertrophy**

Heart: 470 grams (predicted normal value 350 grams, upper limit 463 grams for a 178lbs man); normal epicardial fat; closed foramen ovale; concentric left ventricular hypertrophy: left ventricular cavity diameter 35mm, left ventricular free wall thickness 15mm, ventricular septum thickness 17mm, right ventricle thickness 5mm, without gross scars or abnormal fat infiltrates; grossly 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; no gross atherosclerosis

Conduction system: The sinoatrial node and nodal artery are unremarkable. The compact atrioventricular (AV) node shows mild fragmentation within the central fibrous body, without inflammation, necrosis, increased fat or proteoglycan. The penetrating bundle is centrally located and unremarkable. The left proximal bundle branch is intact and unremarkable. The right bundle branch is not seen in these sections. There are no discernible bypass tracts between the AV node and ventricular septum. There is no dysplasia of the AV nodal artery.

LIVER & BILIARY SYSTEM: The 1820 gm liver has an intact, smooth capsule and a sharp anterior border. The parenchyma is tan-brown and congested, with the usual lobular architecture. No mass lesions or other abnormalities are seen. The gallbladder contains 5 ml of green-black bile and no stones. The mucosal surface is green and velvety. The extrahepatic biliary tree is patent.

SPLEEN: The 250 gm spleen has a smooth, intact, red-purple capsule. The parenchyma is maroon and congested, with distinct Malpighian corpuscles.

PANCREAS: The pancreas is firm and yellow-tan, with the usual lobular architecture. No mass lesions or other abnormalities are seen.

ADRENALS: The right and left adrenal glands are symmetric, with bright yellow cortices and grey medullae. No masses or areas of hemorrhage are identified.

GENITOURINARY SYSTEM: The right and left kidneys weigh 170 and 160 gm, respectively. The external surfaces are intact and smooth. The cut surfaces are red-tan and congested, with uniformly thick cortices and sharp corticomedullary junctions. The pelves are unremarkable and the ureters are normal in course and caliber. White bladder mucosa overlies an intact bladder wall. The bladder is empty. The prostate gland is normal in size, with lobular, yellow-tan

HAMID (b)(6)

parenchyma. The seminal vesicles are unremarkable. The testes are free of mass lesions, contusions, or other abnormalities.

GASTROINTESTINAL TRACT: The esophagus is intact and lined by smooth, grey-white mucosa. The stomach contains approximately 90 ml of brown partially digested food. The gastric wall is intact. The duodenum, loops of small bowel and colon are unremarkable. The appendix is present.

MUSCULOSKELETAL:

No traumatic abnormalities or hemorrhage of subcutaneous tissue, muscle or bone are identified. Nontraumatic abnormalities are not identified.

ADDITIONAL PROCEDURES

- Documentary photographs are taken by the OAFME Photographer
- Identifying marks include a tattoo (b)(6)
- Specimens retained for toxicological testing and/or DNA identification are: vitreous fluid, blood, urine, spleen, liver, kidney, lung, bile, gastric contents, and psoas muscle.
- The dissected organs are forwarded with the body

MICROSCOPIC EXAMINATION

Selected portions of organs are retained in formalin with preparation of the following histologic slides:

Heart: see cardiac consultation page 5

Brain: see neuropathology consultation pages 3/4

1. Liver: sinusoidal and centrilobular congestion, otherwise no pathologic abnormality
- 2/3. Lung: focally marked alveolar congestion, otherwise no pathologic abnormality
4. Kidney: vascular congestion, otherwise no pathologic abnormality
5. Spleen and Adrenal Gland: no pathologic abnormality
6. Pancreas: mild autolysis, otherwise no pathologic abnormality

HAMID (b)(6)

OPINION

Based on these autopsy findings and the investigative information available to me, the cause of death of this Iraqi detainee (b)(6) is probable cardiac arrhythmia secondary to concentric left ventricular hypertrophy. Left ventricular hypertrophy is associated with cardiac arrhythmias and sudden death. Additional autopsy findings include marked pulmonary congestion and generalized congestion of the liver, spleen and kidneys; findings consistent with a fatal cardiac arrhythmia. There are no signs of external or internal trauma. Toxicology testing is positive for lidocaine; a drug used in cardiac resuscitation attempts, and is otherwise negative for ethanol or screened drugs of abuse. The manner of death is natural.

(b)(6)

Armed Forces Medical Examiner System (b)(6)

CERTIFICATE OF DEATH (OVERSEAS) Acte de décès (D'Outre-Mer)			
NAME OF DECEASED (Last, First, Middle) Nom du décédé (Nom et prénoms) BTB Hamid, Fadil, Jadua		GRADE Grade	BRANCH OF SERVICE Arme Civilian
ORGANIZATION Organisation		NATION (e.g. United States) Pays Iraq	DATE OF BIRTH Date de naissance (b)(6) 1978
RACE Race		MARITAL STATUS État Civil	RELIGION Culte
<input checked="" type="checkbox"/> CAUCASOID Caucasique	<input type="checkbox"/> NEGROID Negroïde	<input type="checkbox"/> SINGLE Célibataire	<input type="checkbox"/> PROTESTANT Protestant
<input type="checkbox"/> OTHER (Specify) Autre (Spécifier)	<input type="checkbox"/> MARRIED Marié	<input type="checkbox"/> DIVORCED Divorcé	<input type="checkbox"/> CATHOLIC Catholique
	<input type="checkbox"/> WIDOWED Veuf	<input type="checkbox"/> SEPARATED Séparé	<input checked="" type="checkbox"/> OTHER (Specify) Autre (Spécifier)
NAME OF NEXT OF KIN Nom du plus proche parent		RELATIONSHIP TO DECEASED Parenté du décédé avec le sus	
STREET ADDRESS Domicilié à (Rue)		CITY OR TOWN OR STATE (Include ZIP Code) Ville (Code postal compris)	
MEDICAL STATEMENT Déclaration médicale			
CAUSE OF DEATH (Enter only one cause per line) Cause du décès (N'indiquer qu'une cause par ligne)			INTERVAL BETWEEN ONSET AND DEATH Intervalle entre l'attaque et le décès
DISEASE OR CONDITION DIRECTLY LEADING TO DEATH ¹ Maladie ou condition directement responsable de la mort		Probable cardiac arrhythmia secondary to concentric left ventricular hypertrophy Minutes	
ANTECEDENT CAUSES Symptômes précurseurs de la mort	MORBID CONDITION, IF ANY, LEADING TO PRIMARY CAUSE Condition morbide, s'il y a lieu, menant à la cause primaire		
	UNDERLYING CAUSE, IF ANY, GIVING RISE TO PRIMARY CAUSE Condition morbide, s'il y a lieu, menant à la cause primaire		
OTHER SIGNIFICANT CONDITIONS ² Autres conditions significatives			
MODE OF DEATH Condition de décès	AUTOPSY PERFORMED Autopsie effectuée <input checked="" type="checkbox"/> YES Oui <input type="checkbox"/> NO Non	CIRCUMSTANCES SURROUNDING DEATH DUE TO EXTERNAL CAUSES Circonstances de la mort suscitées par des causes extérieures	
<input checked="" type="checkbox"/> NATURAL Mort naturelle	MAJOR FINDINGS OF AUTOPSY Conclusions principales de l'autopsie		
<input type="checkbox"/> ACCIDENT Mort accidentelle	NAME OF PATHOLOGIST Nom du pathologiste (b)(6)		
<input type="checkbox"/> SUICIDE Suicide	SIGNATURE Signature (b)(6)	DATE Date 25 October 2006	AVIATION ACCIDENT Accident à Avion <input type="checkbox"/> YES Oui <input checked="" type="checkbox"/> NO Non
<input type="checkbox"/> HOMICIDE Homicide	DATE OF DEATH (day, month, year) Date de décès (le jour, le mois, l'année) (b)(6) 2006		
PLACE OF DEATH Lieu de décès Camp Bucca, Qasr Iraq			
I HAVE VIEWED THE REMAINS OF THE DECEASED AND DEATH OCCURRED AT THE TIME INDICATED AND FROM THE CAUSES AS STATED ABOVE. J'ai examiné les restes mortels du défunt et je conclus que le décès est survenu à l'heure indiquée et à la suite des causes énumérées ci-dessus.			
NAME OF MEDICAL OFFICER Nom du médecin militaire ou du médecin sanitaire (b)(6)		TITLE OR DEGREE Titre ou diplôme Medical Examiner	
GRADE Grade (b)(6)	INSTALLATION OR ADDRESS Installation ou adresse Dover AFB, Dover DE		
DATE Date 2/28/2007	SIGNATURE Signature (b)(6)		
¹ State disease, injury or complication which caused death, but not related to the manner of death. ² State conditions contributing to the death, but not related to the manner of death. ³ Préciser la nature de la maladie, de la blessure ou de la complication qui a contribué à la mort, mais non la manière de mourir, telle qu'un arrêt du cœur, etc. ⁴ Préciser la condition qui a contribué à la mort, mais n'ayant aucun rapport avec la maladie ou la condition qui a provoqué la mort.			

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REPLACES DA FORM 3685, 1 JAN 72 AND DA FORM 3686-R(PAS), 28 SEP 78, WHICH ARE OBSOLETE.

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