



**ARMED FORCES INSTITUTE OF PATHOLOGY**  
**Office of the Armed Forces Medical Examiner**  
1413 Research Blvd., Bldg. 102  
Rockville, MD 20850  
(301) 319-0000



**AUTOPSY EXAMINATION REPORT**

Name: Atiah, Khalifah Hamadi  
ISN: (b)(6)  
Date of Birth: (b)(6) 1959  
Date of Death: (b)(6) 2006  
Date/Time of Autopsy: 06 DEC 2006/1100  
Date of Report: 09 FEB 2006

Autopsy No.: (b)(6)  
AFIP No.: (b)(6)  
Rank: Detainee  
Place of Death: Iraq  
Place of Autopsy: Port Mortuary  
Dover AFB, Dover, DE

**Circumstances of Death:** This 57-year-old, detainee was interned at Camp Remembrance, Iraq during Operation Iraqi Freedom. Investigative reports state that (b)(6) (b)(6) was admitted to the 21<sup>st</sup> Combat Support Hospital (CSH) with complaints of chest pain and was diagnosed with an acute myocardial infarction. On (b)(6) (b)(6) (b)(6) condition worsened and he became unresponsive. Aggressive attempts at resuscitation were unsuccessful.

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

**Identification:** Presumptive identification by accompanying reports. A DNA sample is taken for profile purposes should an exemplar becomes available for positive identification.

**CAUSE OF DEATH:** Acute myocardial infarction

**MANNER OF DEATH:** Natural

**FINAL AUTOPSY DIAGNOSES:**

- I. Natural disease diagnoses
  - A. Atherosclerotic cardiovascular disease
    1. Acute thrombus middle circumflex coronary artery
    2. Luminal narrowing, 70% of the left main coronary artery
    3. Luminal narrowing; 80% of the proximal, 90% of the middle and 90% of the distal left anterior descending coronary artery
    4. Luminal narrowing; 60% of the proximal, 90% of the middle and near total occlusion (pinpoint lumen) of the distal right coronary arteries
    5. Diffuse arteriosclerotic and atherosclerotic plaque formation throughout the thoracic and abdominal aorta
    6. Calcific plaque formation and luminal narrowing of both renal arteries
    7. Acute and healed myocardial infarction involving the left ventricle
    8. Cardiomegaly (borderline); 450-grams (expected heart weight 344-grams, upper limit 439-grams)
  - B. Bilateral atrophied and granular kidneys (right – 70-grams, left – 30-grams)
  - C. Bilateral pulmonary edema (right lung – 640-grams, left lung – 670-grams)
- II. Evidence of medical intervention
  - A. Orotracheal tube, appropriately placed
  - B. Angiocatheter sutured in the left subclavian vein
  - C. Multiple (14) self-adhesive electrocardiogram electrodes affixed to the anterior chest, left arm and left thigh
  - D. Urinary catheter
  - E. Intravenous catheters in the dorsum of both distal forearms
  - F. Multiple therapeutic puncture marks on the left neck and shoulder, right antecubital fossa, and right lower quadrant of the abdomen
  - G. Identification bracelet on the right wrist printed with (b)(6)
  - H. Hemorrhage into the superficial strap muscles and left lobe of the thyroid gland
- III. Traumatic diagnoses
  - A. Trauma of the head and neck
    1. No evidence of ligature marks or strangulation on the neck after external examination and layerwise anterior and posterior neck dissections
  - B. Trauma of the torso
    1. Faint red contusion on the lower chest along the right anterior axillary line, 1 ½ x ½-inch
    2. Healing contusion on the lower chest along the left mid-clavicular line, 1 x ¾-inch
    3. Area of ecchymosis above the left anterior superior iliac spine associated with a therapeutic puncture, 2 1/8 x ¼-inches
    4. Contusion below the angle of the left scapula, 1 x ½-inches
    5. Superficial hemorrhage into the left middle trapezius and rhomboid muscles, 4 ½ x 1 ½-inches, without injury to the underlying paraspinal muscles

6. No evidence of additional trauma after external examination and dissection of the subcutaneous tissues and muscles

C. Trauma of the extremities

1. Contusion of the right antecubital fossa associated with therapeutic punctures, 2 ½ x 1 ¼-inches
2. Contusion on the tip of the distal phalanx of the 1<sup>st</sup> digit of the right foot, 1/8-inch
3. Ecchymosis in the right popliteal fossa, 3 x 2 ½-inches
4. No evidence of additional trauma after external examination and dissection of the subcutaneous tissues and muscles

IV. Post-mortem changes

- A. Lividity is fixed on the posterior surface of the body except in areas exposed to pressure
- B. Rigor is present to an equal degree in all extremities
- C. Greenish discoloration of the skin of the right lower quadrant of the abdomen

V. Toxicology results

- A. Volatiles: The blood and vitreous fluid were examined for the presence of ethanol at a cutoff of 20 mg/dl. No ethanol was detected.
- B. Drugs: The blood was screened for amphetamine, antidepressants, antihistamines, barbiturates, benzodiazepines, cannabinoids, chloroquine, cocaine, dextromethorphan, lidocaine, narcotic analgesics, opiates, phencyclidine, phenothiazines, sympathomimetic amines and verapamil by gas chromatography, color test or immunoassay:
  1. Positive metoprolol: Metoprolol was detected in the blood by gas chromatography and confirmed by gas chromatography/mass spectrometry. The blood contained ½ mg/L of metoprolol as quantitated by gas chromatography/mass spectrometry.
- C. Carbon Monoxide: The Carboxyhemoglobin saturation in the blood is less than 1% as determined by spectrophotometry with a limit of quantitation of 1%. Carboxyhemoglobin 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.
- D. Cyanide: No cyanide is detected in the blood. The limit of quantitation for cyanide is 0.25 mg/L. Normal blood cyanide concentrations are less than 0.15mg/L. Lethal concentrations of cyanide are greater than 3 mg/L.

### EXTERNAL EXAMINATION

The body is that of a well-developed, well-nourished appearing adult male whose appearance is consistent with the reported age of 57-years. The remains are 69-inches in length, and weigh 182-pounds. Lividity is present and fixed on the posterior surface of the body, except in areas exposed to pressure. Rigor is present to an equal degree in all extremities. The temperature of the body is that of the refrigeration unit.

The scalp is covered with curly short black hair with gray at the temples and early male pattern baldness. The face has grey and brown stubble with a trim grey streaked black moustache. The irides are brown, the corneae hazy, and the pupils are round and equal in diameter. The sclera are white, the conjunctivae congested with no evidence of petechial hemorrhage. The external auditory canals are free of foreign material and abnormal secretions. The ears are unremarkable. The nares are patent and the lips are atraumatic. The nose and maxillae are palpably stable. The teeth appear natural and in poor condition. No evidence of trauma is noted on the head.

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 male distribution. The buttocks and anus are unremarkable. No evidence of significant trauma is noted on the torso.

The upper and lower extremities are symmetric, without clubbing or edema. No evidence of significant trauma is noted on the extremities.

Identifying marks include the following:

- Multiple hypopigmented scars on the anterior left leg, up to ½-inch in greatest dimensions
- An obliquely oriented (along the 5 to 11 o'clock axis) elliptical scar on the interscapular skin of the back, 2 ½ x ½-inches
- A hyperpigmented scar on the medial border of the right scapula, ¾ x ½-inch
- A hypopigmented scar below the right gluteal crease, 2 x ½-inches
- Hyperkeratotic patch on the right lateral malleolus, 7/8 x ½-inches

### CLOTHING AND PERSONAL EFFECTS

The following clothing items and personal effects accompanied the body to the mortuary at the time of autopsy:

- One pair yellow pajamas
- A light green quilted jacket
- A white short sleeve cotton tee shirt
- A pair of brown socks
- A knit ski cap
- Pair of brown shower shoes
- A single knit black glove

### MEDICAL INTERVENTION

- Orotracheal tube, appropriately placed
- Angiocatheter sutured in the left subclavian vein
- Multiple (14) self-adhesive electrocardiogram electrodes affixed to the anterior chest, left arm and left thigh
- Urinary catheter
- Intravenous catheters in the dorsum of both distal forearms
- Multiple therapeutic puncture marks on the left neck and shoulder, right antecubital fossa, and right lower quadrant of the abdomen
- Identification bracelet on the right wrist printed with (b)(6)
- Hemorrhage into the superficial strap muscles and left lobe of the thyroid gland

### RADIOGRAPHS

A complete set of postmortem radiographs is obtained and demonstrate no evidence of significant trauma

### 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 faint red contusion on the lower chest along the right anterior axillary line measuring 1 ½ x ½-inch. On the lower chest along the left mid-clavicular line is a healing 1 x ¾-inch contusion. There is an area of ecchymosis measuring 2 1/8 x ¼-inches above the left anterior superior iliac spine associated with a therapeutic puncture. Injuries to the back include a superficial hemorrhage into the left middle trapezius and rhomboid muscles measuring 4 ½ x 1 ½-inchew without injury to the underlying paraspinal muscles.

Injuries to the extremities include a contusion, measuring 2 ½ x 1 ¼-inches, in the right antecubital fossa associated with therapeutic punctures. There is a contusion on the tip of the distal phalanx of the 1<sup>st</sup> digit of the right foot measuring 1/8-inch in diameter. In the right popliteal fossa is a 3 x 2 ½-inch area of ecchymosis.

### INTERNAL EXAMINATION

#### HEAD:

The galeal and subgaleal soft tissues of the scalp are free of injury. The scalp is reflected. The calvarium is intact as is the dura mater beneath it. There are no epidural or subdural hemorrhages present. The leptomeninges are thin and delicate. Clear cerebrospinal fluid surrounds the 1280-gram brain, which has unremarkable gyri and sulci. The cerebral hemispheres are symmetrical and demonstrate mild vascular congestion. The structures at the base of the brain, including cranial nerves and blood vessels are intact. Coronal sections demonstrate sharp demarcation between white and grey matter, without hemorrhage or contusive injury. The ventricles are of normal size. The basal ganglia, brainstem, and cerebellum are free of injury or other abnormalities. The arterial systems

are free of injury. Focal atherosclerotic plaques are noted in the basilar and vertebral arteries. The atlanto-occipital joint is stable.

NECK:

The anterior strap muscles of the neck are homogenous and red-brown. Focal hemorrhage is noted in the superficial left strap muscles and the left lobe of the thyroid gland and described under "Evidence of Medical Intervention". The thyroid cartilage and hyoid 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 layerwise dissection of the anterior and posterior neck demonstrates no evidence of trauma, deep paracervical muscular injury, or cervical spine fractures.

BODY CAVITIES:

The body is opened by the usual thoraco-abdominal incision and the chest plate is removed. No adhesions are present in any of the body cavities. There is a 30-milliliter collection of serosanguinous fluid in the right pleural cavity. The remaining body cavities have no abnormal collections of fluid. All body organs are present in the normal anatomic position. There is no internal evidence of blunt force or penetrating injury to the thoraco-abdominal region.

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 external surfaces are smooth and dark red. The pulmonary parenchyma is diffusely congested, boggy red, and edematous, exuding moderate amounts of bloody fluid. No mass lesions or areas of consolidation are present. The right and left lungs weigh 640 and 670-grams, respectively.

CARDIOVASCULAR SYSTEM:

The pericardial surfaces are smooth, glistening and unremarkable; the pericardial sac is free of significant fluid or adhesions. The coronary arteries arise normally; follow the usual distribution in a right dominant pattern. Three vessel atherosclerotic coronary artery disease is present with luminal narrowing in the following distribution: left main coronary artery – 70%; left anterior descending coronary artery – proximal (80%), middle (90%), and distal (90%); right coronary artery – proximal (60%), middle (90%), and distal (near occlusion – pinpoint lumen); left circumflex coronary artery (90%) with acute thrombus formation in the middle segment of the vessel. Scarring and fibrosis is noted in the septum and posterior free wall of the left ventricle. The remainder of the myocardium is homogenous, red-brown, firm and unremarkable. The valve leaflets are thin and mobile. The walls of the left and right ventricles are 1.2 and 0.3-centimeters thick, respectively. The endocardium is smooth and glistening. The aorta and its major branches arise normally, follow the usual course and are widely patent. There are multiple calcific atherosclerotic plaques along the thoracic and abdominal aorta. There is calcific plaque formation and near occlusive luminal narrowing of both renal arteries. The venae cavae and its major tributaries return to the heart in the usual distribution and

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**ATIAH, Khalifah Hamadi**

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are free of thrombi. The mesenteric vessels are unremarkable. The heart weighs 450-grams (predicted heart weight 205-439-grams for a 181-pound man).

LIVER & BILIARY SYSTEM:

The hepatic capsule is smooth, glistening and intact, covering dark red-brown, moderately congested parenchyma with no focal lesions present. The gallbladder contains 50-milliliters of green-brown, bile; the mucosa was velvety and unremarkable. The extrahepatic biliary tree is patent, without evidence of calculi. The liver weighs 1960-grams.

SPLEEN:

The 300-gram 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 70 and 30-grams, respectively. The external surfaces are intact and granular. The cut surfaces are red-tan and congested, with uniformly thick cortices and blurring of the 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 contains no urine. The prostate 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.

GASTROINTESTINAL TRACT:

The esophagus is intact and lined by smooth, grey-white mucosa. There is a 3 x 2 ½-inch area of hemorrhage of the mucosal surface in the fundus of the stomach. The stomach contains approximately 250-milliliters of thick brown fluid with fragments of partially digested food. The duodenum, loops of small bowel, and colon are unremarkable. The appendix is present.

MUSCULO-SKELETAL SYSTEM:

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

**ADDITIONAL PROCEDURES**

- Documentary photographs are taken by OAFME staff photographers
- Specimens retained for toxicologic testing and/or DNA identification are: heart blood, vitreous fluid, gastric contents, bile, spleen, liver, lung, kidney, brain, adipose tissue, and psoas muscle
- Full body radiographs are obtained and demonstrate the above findings
- Selected portions of organs are retained in formalin, histological slides are prepared of selected organs
- The dissected organs are forwarded with the body
- Personal effects are released to the mortuary affairs representatives

**MICROSCOPIC EXAMINATION**

Selected portions of organs are retained in formalin.

**SLIDE SUMMARY:**

- |   |                            |
|---|----------------------------|
| 1. Left anterior descending coronary artery | 7. Left ventricle          |
| 2. Right coronary artery                    | 8. Anterior left ventricle |
| 3. Circumflex coronary artery               | 9. Lateral left ventricle  |
| 4. Circumflex coronary artery with thrombus | 10. Kidney, lung           |
| 5. Right ventricle                          | 11. Spleen, lung           |
| 6. Septum                                   | 12. Liver, lung            |
|   | 13. Kidney, lung           |
|   | 14. Aorta, lung            |

I. Cardiovascular (#1-9, 14): Histologic sections of the left anterior descending and right coronary arteries demonstrate at least 90% luminal narrowing by fibrocalcific plaques. Sections of the left circumflex coronary artery show acute rupture of a fibroatheroma with occlusive thrombus and greater than 90% luminal narrowing. Focal myocyte hypertrophy is seen in microscopic sections of the right ventricle and septum. Histologic sections of the left ventricle show the presence of contraction bands, a neutrophilic infiltrate, transmural replacement fibrosis, interstitial fibrosis, and focal myocyte hypertrophy. Fibrocalcific plaques are seen on microscopic evaluation of representative sections of the aorta.

II. Pulmonary (#10-14): Vascular congestion, no significant pathologic diagnosis

III. Liver (#12): Vascular congestion, no significant pathologic diagnosis

IV. Genitourinary (#10, 13): Kidneys demonstrate arteriosclerosis, focal glomerular sclerosis and focal tubular necrosis

V. Spleen (#11): Vascular congestion, no significant pathologic diagnosis

**OPINION**

This 57-year-old detainee (b)(6) died of an Acute Myocardial Infarction. An acute thrombus was identified in the left circumflex coronary artery. Microscopic and gross examination of the heart demonstrated evidence of an acute and healed infarct. Severe coronary atherosclerosis of three vessels (left anterior descending, right and left circumflex coronary arteries) was noted both on gross and microscopic examination. His heart weighed 450-grams and the expected heart weight for his size (182-pounds) is 344-grams with an upper limit of 439-grams. No significant traumatic injuries were identified at autopsy. Toxicology tests for ethanol, screened drugs of abuse, carbon monoxide, and cyanide are negative. Supratherapeutic levels of metoprolol were detected in the blood. These levels are significantly below toxic or lethal levels and are unrelated to the cause and manner of death.

The manner of death is natural.

(b)(6)

(b)(6) Medical Examiner

(b)(6)

(b)(6) Medical Examiner

CERTIFICATE OF DEATH (OVERSEAS) Acte de décès (D'Outre-Mer)			
NAME OF DECEASED (Last, First, Middle) Nom du décédé (Nom et prénoms) BTB Aliah, Khalifah, Hamadi		GRADE Grade	BRANCH OF SERVICE Arme Civilian
ORGANIZATION Organisation		NATION (e.g. United States) Pays Iraq	DATE OF BIRTH Date de naissance (b)(6) 1959
RACE Race		MARITAL STATUS État Civil	RELIGION Culte
<input checked="" type="checkbox"/> CAUCASOID Caucasique	<input type="checkbox"/> SINGLE Célibataire	<input type="checkbox"/> DIVORCED Divorcé	<input type="checkbox"/> PROTESTANT Protestant
<input type="checkbox"/> NEGROID Négresse	<input type="checkbox"/> MARRIED Marié	<input type="checkbox"/> SEPARATED Séparé	<input checked="" type="checkbox"/> CATHOLIC Catholique
<input type="checkbox"/> OTHER (Specify) Autre (Spécifier)	<input type="checkbox"/> WIDOWED Veuf		<input type="checkbox"/> JEWISH Juif
NAME OF NEXT OF KIN Nom du plus proche parent		RELATIONSHIP TO DECEASED Parenté du décédé avec le sus	
STREET ADDRESS Domicile 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 Maladie ou condition directement responsable de la mort			Days
Acute myocardial infarction			
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	Atherosclerotic cardiovascular disease	
	UNDERLYING CAUSE, IF ANY, GIVING RISE TO PRIMARY CAUSE Condition morbide, s'il y a lieu, menant à la cause primaire		
OTHER SIGNIFICANT CONDITIONS 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			
<input type="checkbox"/> SUICIDE Suicide	NAME OF PATHOLOGIST Nom du pathologiste (b)(6)		
<input type="checkbox"/> HOMICIDE Homicide	SIGNATURE / Signature (b)(6)	DATE / Date 6 December 2006	AVIATION ACCIDENT / Accident à l'Avion <input type="checkbox"/> YES Oui <input checked="" type="checkbox"/> NO Non
DATE OF DEATH (day, month, year) Date de décès (le jour, le mois, l'année)	PLACE OF DEATH / Lieu de décès		
(b)(6) 2006 (b)(6)	Baghdad 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 défunct 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 civilien		TITLE OR DEGREE Titre ou diplôme	
(b)(6)		Medical Examiner	
GRADE Grade	INSTALLATION OR ADDRESS Installation ou adresse		
CDR	Dover AFB, Dover DE		
DATE Date	SIGNATURE (b)(6)		
06 December 06			

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REPLACES DA FORM 1365, 1 JAN 72 AND DA FORM 1365-R(PAS), 24 SEP 78, WHICH ARE OBSOLETE.

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