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 EXAMINATION REPORT

Name: BTR Al Khalaf, Majamey
ISN (b)(6)
Date of Birth: Unknown
Date of Death: (b)(6) 2005
Date of Autopsy: 15 MAR 2005
Date of Report: 09 JUN 2005

Autopsy No.: (b)(6)
AFIP No.: (b)(6)
Rank: Civilian
Place of Death: 82nd CSH, Tallil, Iraq
Place of Autopsy: Port Mortuary
Dover AFB, DE

Circumstances of Death: This Iraqi National male detainee of the US Forces suffered a myocardial infarction on 27 January 2005 while being held at Camp Bucca, Iraq. The decedent reported having chest pain and when evaluated at the clinic at Camp Bucca was found to have EKG changes consistent with an acute myocardial infarction. He was transferred to the 82nd Combat Support Hospital (CSH) in Tallil, Iraq, where according to the medical records provided, the infarction was confirmed and treatment for the infarction was initiated. Thrombolysis was not performed because of traumatic attempts at placing a foley catheter at Camp Bucca, which resulted in an actively bleeding site. The decedent had a chest x-ray consistent with heart failure pattern, which required intubation. During the decedent's hospitalization there were multiple trials of weaning him from the ventilator but all were unsuccessful. The decedent's blood pressure remained labile throughout his hospitalization. He received a tracheostomy and gastrostomy for extended care. On (b)(6) 2005, he possibly suffered another myocardial infarction and died despite emergent life saving efforts. The medical records of the last days of his hospitalization are not available for review. The decedent also has a reported history of poorly controlled adult onset diabetes mellitus.

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

Identification: Presumptive identification is established by the ISN (Internment Serial Number). Fingerprints and a DNA sample were taken for identification purposes should an exemplar become available.

CAUSE OF DEATH: Atherosclerotic Cardiovascular Disease

MANNER OF DEATH: Natural

FINAL AUTOPSY DIAGNOSES:

I. Atherosclerotic Cardiovascular Disease

A. Atherosclerotic Cardiovascular Disease

1. Per Cardiovascular Pathology Consultation: "1) Cardiomegaly (582 grams) with left ventricular hypertrophy. 2) Severe coronary atherosclerosis with calcification, two vessel disease; occlusive organizing thrombus, mid left anterior descending artery. 3) Healing transmural myocardial infarction, left posterolateral wall. 4) Healed transmural myocardial infarction, apex, left anterior ventricular wall and septum." (See full consultation report below)
2. Moderate atherosclerosis of the aorta.
3. Moderate to severe atherosclerosis of the basilar artery and the Circle of Willis (cerebral arteries).
4. Finely granular cortical surfaces of the kidneys.

II. Other Autopsy Findings

1. Severe pulmonary edema with right pleural effusion (1500 ml of serosanguineous fluid).
2. Cholestasis with gallbladder wall thickening.
3. Bilateral renal cortical cysts (no greater than 0.4 cm in diameter)
4. Hemorrhagic mucosa of the trigone and lower urinary bladder
5. Anasarca associated with bilateral conjunctival edema, pitting edema of the extremities and digits and massive scrotal distention.
6. Crusted abrasions on the left chest, superior portion of the abdomen, left anterior costal margin, right thigh and right shoulder.
7. A 8 x 7 cm area of erythema on the inferior central abdominal wall
8. A 9.2 x 7.0 cm decubitus ulcer of the sacral area

III. Medical Intervention

1. Tracheostomy
2. Left chest tube (6th intercostal space) associated with dense but easily broken adhesions of the left parietal pleura to the left lung and thickening of the pleura
3. Prior left chest tube site (sutured skin incision and perforation of the 4th intercostal space)
4. Triple lumen catheter in left subclavian vein
5. Arterial catheter right radial artery

6. Status post gastrostomy tube placement with stapled skin incision and associated with easily broken adhesions of the liver, stomach and transverse colon.
7. Foley catheterization of the urinary bladder
8. Status post cardiopulmonary resuscitation associated with fractures of the right fifth rib and left fourth and fifth ribs.
9. Self adhesive electrocardiogram lead on the left abdominal wall
10. Needle puncture site in the left antecubital fossa
11. Bio-occlusive dressing on posterior left thigh

IV. Mild decomposition with areas of vesicle formation and skin slippage on the scalp, face, left and right upper extremities, left abdomen, upper back, left thigh, and bilateral lower legs

V. Identifying Marks
1. (b)(6) tattoo (b)(6)
2. Hyperpigmented scar on the posterior surface of the right hand
3. Hyperpigmented areas of skin on the right lower abdominal quadrant

VI. Toxicology is negative for ethanol and drugs of abuse. Midazolam (a benzodiazepine) is in the blood (0.10 mg/L).

EXTERNAL EXAMINATION

The unclad body is that of a well-developed, well-nourished appearing, 69 inch long, 243 pound Iraqi national male whose appearance is consistent with an age range of 40-50 years. Lividity is faint and fixed along the back. Rigor mortis is absent. There is mild anasarca. Early decomposition changes, which include vesicle formation and skin slippage, are on the scalp, the left side of the face and neck, the upper extremities, the left side of the abdomen, the upper back, the left thigh and lower legs.

The scalp is covered with curly black hair in a normal distribution. The irides are brown, and the pupils are round and equal in diameter. The conjunctivae are edematous and there is bilateral peri-orbital edema. The external auditory canals are free of abnormal excretions. The ears are unremarkable. The nares are patent and the lips are atraumatic. The nose and maxillae are palpably stable. The decedent is edentulous. The facial hair consists of a black and gray mustache and beard.

The neck is straight, and the trachea is midline and mobile. A tracheostomy tube is in place in the central anterior neck. The chest is symmetric. A 2.4 x 0.8 cm crusted abrasion is on the left chest. A 1.2 x 0.2 cm crusted abrasion is immediately below the left costal margin. On the upper central abdomen are four areas of abrasions with early skin slippage. The areas range from 1.2 x 0.3 cm to 2.0 x 0.3cm. The abdomen is globoid and without masses. An 8 x 7 cm area of erythema is on the skin of the inferior central abdomen. In the right lower quadrant of the abdomen are two areas of hyperpigmented skin (10 x 3 cm and 4 x 4 cm). 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. On the right upper back is a 2.4 x 0.7 cm crusted abrasion. Overlying the sacrum is a 9.2 x 7.0 cm decubitus ulcer. The buttocks and anus are unremarkable. A bio-occlusive dressing is attached to the posterior proximal left thigh.

The upper and lower extremities are symmetric and free of obvious deformities. On the anterior surface of the right thigh are a 5.3 x 2.5 cm area of scattered abrasions and a 3.8 x 1.5 cm area of crusted skin slippage.

CLOTHING AND PERSONAL EFFECTS

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

A white "Cartier Paris" t-shirt, green scrub pants, "Madaen" sandals, green socks, an Iraqi garment and brown jacket.

MEDICAL INTERVENTION

1. Tracheostomy
2. Left chest tube (6th intercostal space) associated with dense but easily broken adhesions of the left parietal pleura to the left lung and thickening of the pleura
3. Prior left chest tube site (sutured skin incision and perforation of the 4th intercostal space)
4. Triple lumen catheter in left subclavian vein

5. Arterial catheter right radial artery
6. Status post gastrostomy tube placement with stapled skin incision and associated with easily broken adhesions of the liver, stomach and transverse colon.
7. Foley catheterization of the urinary bladder
8. Status post cardiopulmonary resuscitation associated with fractures of the right fifth rib and left fourth and fifth ribs.
9. Self adhesive electrocardiogram lead on the left abdominal wall
10. Needle puncture site in the left antecubital fossa
11. Bio-occlusive dressing on posterior left thigh

RADIOGRAPHS

A complete set of postmortem radiographs is obtained and demonstrates no long bone fractures or masses. There are no foreign bodies except for the medical devices described above.

EVIDENCE OF INJURY

There are no acute 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. Clear cerebrospinal fluid surrounds the 1490 gm brain, which has a dusky appearance and generalized softening of the parenchyma. The gyri and sulci are unremarkable. 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. There is moderate to severe atherosclerosis of the basilar artery and Circle of Willis (cerebral arteries). There are no skull fractures. The atlanto-occipital joint is stable.

NECK:
The anterior strap muscles of the neck are homogenous and red-brown, without hemorrhage. The thyroid cartilage and hyoid bone are intact and calcified. A tracheostomy is in the crico-thyroid membrane and is associated with a laceration of the isthmus of the thyroid gland. The larynx is lined by intact white mucosa. The thyroid gland is symmetric and red-brown, without cystic or nodular change. The edematous tongue is free of bite marks, hemorrhage, or other injuries.

BODY CAVITIES:
The ribs (except where noted above), sternum, and vertebral bodies are visibly and palpably intact. No excess fluid is in the pericardial cavity. The right hemithorax contains 1500 ml of bloody serous fluid. The left hemithorax has dense but easily broken adhesions between the left lung and the parietal pleura. The peritoneal cavity contains approximately 200 ml of brown and bilious fluid. The organs occupy their usual anatomic positions.

RESPIRATORY SYSTEM:
The right and left lungs weigh 1130 and 1060 gm, respectively. The external surfaces are smooth and deep red-purple. The pulmonary parenchyma is severely congested and edematous. There are no areas of frank purulence. No mass lesions or areas of consolidation are present.

CARDIOVASCULAR SYSTEM:
The 610 gm heart is soft and contained in an intact pericardial sac. The epicardial surface is smooth, with minimal fat investment. The epicardial surface of the left ventricle has a dark speckled appearance. The coronary arteries are present in a normal distribution. Cross sections of the left coronary artery show severe atherosclerosis of the left anterior descending branch of the left coronary artery. See full Cardiac Pathology Consultation Report below.

The aorta gives rise to three intact and patent arch vessels. There is moderate ulcerated atherosclerosis throughout the course of the aorta. The renal and mesenteric vessels are unremarkable.

LIVER & BILIARY SYSTEM:
The 2260 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 approximately 20-30 ml of viscous green-black bile and no stones. The gallbladder wall thickened and the mucosal surface is green and velvety. The extrahepatic biliary tree is patent.

SPLEEN:
The 330 gm spleen has a smooth, intact, red-purple capsule. The parenchyma is soft and liquified.

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 autolyzed medullae.

GENITOURINARY SYSTEM:
The right and left kidneys weigh 230 gm each. The external surfaces are intact and are finely granular. Each kidney has several small cortical cysts, none of which are greater than 0.4 cm in diameter. 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 that has area of hemorrhage surrounding and including the trigone. 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. The stomach contains approximately 120 ml of brown fluid. A gastrostomy tube perforates the gastric wall. The tube is patent. The duodenum, loops of small bowel, and colon are unremarkable. The appendix is present and unremarkable.

ADDITIONAL PROCEDURES

- Documentary photographs are taken by an OAFME photographer.
- Specimens retained for toxicologic testing and/or DNA identification are: vitreous, blood, urine, spleen, lung, kidney, liver, brain, bile, gastric contents, adipose tissue and psoas muscle.
- The dissected organs are forwarded with body
- Personal effects are released to the appropriate mortuary operations representatives

CONSULTATIONS

Cardiac Pathology Consultation (Department of Cardiovascular Pathology, AFIP, Washington D.C.):

"Diagnosis (b)(6) **: Heart:**

1. **Cardiomegaly with left ventricular hypertrophy**
2. **Severe coronary atherosclerosis with calcification, two vessel disease; occlusive organizing thrombus, mid left anterior descending artery**
3. **Healing transmural myocardial infarction, left posterolateral ventricular**
4. **Healed transmural myocardial infarction, apex, left anterior ventricular wall and septum**

Clinical history: This Iraqi National male detainee of the US Force suffered a myocardial infarction on (b)(6) 05 and was transferred to the hospital where he reportedly suffered another myocardial infarction on (b)(05 and died despite emergent live saving efforts.

Heart: 582 grams; normal epicardial fat; probe patent foramen ovale; left ventricular cavity diameter 5.5 cm, left ventricular free wall thickness 1.6 cm; ventricular septum thickness 1.7 cm; right ventricle thickness 0.3 cm, without gross scars or abnormal fat infiltrates; grossly unremarkable valves and endocardium; scarring of the left anterior ventricular wall and septum; circumferential scarring of the apex; posterolateral wall shows tan-gray softened areas; dilated aortic root; histologic sections show transmural replacement fibrosis of the left anterior ventricular wall and septum and the a transmural healing infarction of several weeks duration seen in the left posterolateral wall characterized by extensive granulation tissue formation with infiltration of numerous macrophages and lymphocytes

Coronary arteries; normal ostia; left dominance; severe coronary atherosclerosis with calcification
Left main coronary (LM): 40% luminal narrowing by fibroatheromatous plaque

Left anterior descending artery (LAD): Partial wrap around LAD with up to 75% luminal narrowing by calcified fibroatheroma; occlusive organizing thrombus mid LAD; total occlusion of diagonal branch by calcified fibroatheroma
Left circumflex artery (LCA): 75% luminal narrowing of the distal LCA by calcified fibroatheroma
Right coronary artery (RCA): 30% luminal narrowing by fibroatheromatous plaque"

Signed by Renu Virmani, M.D. Cardiovascular Pathologist (Original signature of file in the OAFME).

MICROSCOPIC EXAMINATION

Except where noted above, selected portions of organs are retained in formalin, without preparation of histologic slides.

OPINION

This Iraqi National male detainee of the US Forces suffered a myocardial infarction on (b)(6) (b)(6) 2005 while being held at Camp Bucca, Iraq. His hospital course was complicated by continued blood pressure fluctuations and respiratory difficulties. Based on the examination of his heart there was extensive damage and scarring from two large infarctions (heart attacks), which resulted from severe atherosclerosis. The mechanism of death is most commonly an arrhythmia (irregular heart beat) arising in the damaged areas of the heart. The manner of death is natural.

(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)*	GRADE Grade	BRANCH OF SERVICE Arme	SOCIAL SECURITY NUMBER Numéro de l'Assurance Sociale
BTB Majamey, Al Khalaf		Iraqi detainee	(b)(6)

ORGANIZATION Organisation	NATION *(e.g., United States)* Pays	DATE OF BIRTH Date de naissance	SEX Sexe
Iraqi Detainee at Camp Bucca	Iraq		☑ MALE Masculin ☐ FEMALE Féminin

RACE Race		MARITAL STATUS État Civil			RELIGION Culte		
☒	CAUCASOID Caucasique	☐	SINGLE Célibataire	☐ DIVORCED Divorcé	☐ PROTESTANT Protestant	☒	OTHER (Specify) Autre (Spécifier) Muslim
☐	NEGROID Negroide	☐	MARRIED Marié	☐ SEPARATED Séparé	☐ CATHOLIC Catholique		
☐	OTHER (Specify) Autre (Spécifier)	☐	WIDOWED Veuf		☐ JEWISH Juif		

NAME OF NEXT OF KIN Nom du plus proche parent	RELATIONSHIP TO DECEASED Parenté du décédé avec le susdit
STREET ADDRESS Domicile à (Rue)	CITY OR TOWN AND STATE *(Include ZIP Code)* Ville *(Code postal compris)*

MEDICAL STATEMENT Déclaration médicale

CAUSE OF DEATH *(Enter only once 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[1]		Atherosclerotic cardiovascular disease.	Weeks
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 Raison fondamentale, s'il y a lieu, ayant suscité la cause primaire		
OTHER SIGNIFICANT CONDITIONS[2] Autres conditions significatives[2]			

MODE OF DEATH Condition de décès	AUTOPSY PERFORMED Autopsie effectuée ☑ YES Oui ☐ NO Non	CIRCUMSTANCES SURROUNDING DEATH DUE TO EXTERNAL CAUSES Circonstances de la mort suscitées par des causes extérieures
☒ NATURAL Mort naturelle	MAJOR FINDINGS OF AUTOPSY Conclusions principales de l'autopsie	
☐ ACCIDENT Mort accidentelle		
☐ SUICIDE Suicide	NAME OF PATHOLOGIST Nom du pathologiste (b)(6)	
☐ HOMICIDE Homicide	(b)(6)	DATE Date 15 Mar 2005

AVIATION ACCIDENT Accident à Avion	DATE OF DEATH *(Hour, day, month, year)* Date de décès *(l'heure, le jour, le mois, l'année)*	PLACE OF DEATH Lieu de décès
☐ YES Oui ☑ NO Non	(b)(6) 2005	82nd CSH, Tallil, 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 dé funt 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 médicin militaire ou du médicin sanitaire	TITLE OR DEGREE Titre ou diplôme
(b)(6)	Medical Examiner

GRADE Grade	INSTALLATION OR ADDRESS Installation ou adresse
(b)(6)	Dover AFB, DE 19902

DATE Date	
16 MAR 05	(b)(6)

[1] State disease, injury or complication which caused death, but not mode of dying such as heart failure, etc.
[2] State conditions contributing to the death, but not related to the disease or condition causing death.
[1] 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 coeur, etc.
[2] Préciser la condition qui a contribué à la mort, mais n'ayant aucun rapport avec la maladie ou à la condition qui a provoqué la mort.

MEDCOM 0380

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(REMOVE, REVERSE AND RE-INSERT CARBONS BEFORE COMPLETING THIS SIDE)

DISPOSITION OF REMAINS			
NAME OF MORTICIAN PREPARING REMAINS	GRADE	LICENSE NUMBER AND STATE	OTHER
INSTALLATION OR ADDRESS	DATE 3/15/2005	SIGNATURE	
NAME OF CEMETERY OR CREMATORY	LOCATION OF CEMETERY OR CREMATORY		
TYPE OF DISPOSITION		DATE OF DISPOSITION	

REGISTRATION OF VITAL STATISTICS			
REGISTRY *(Town and Country)*	DATE REGISTERED	FILE NUMBER	
		STATE	OTHER
NAME OF FUNERAL DIRECTOR	ADDRESS		
SIGNATURE OF AUTHORIZED INDIVIDUAL			

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