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

FINAL AUTOPSY EXAMINATION REPORT

Name: BTB Adama, Kareem Maktoof
SSAN: (b)(6)
Date of Birth: (b)(6) 1959
Date of Death (b)(6) 2005
Date of Autopsy: 5 AUG 2005
Date of Report: 12 SEP 2005

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

Circumstances of Death: This 46-year-old male was an Iraqi detainee in U.S. custody who was found unresponsive in his prison cell on (b)(6) 2005. The man had been complaining of abdominal discomfort and refused to eat on the day he died.

Authorization for Autopsy: Armed Forces Medical Examiner, per 10 U.S. Code 1471

Identification: Circumstantial identification is by accompanying paperwork and an identification bracelet on the right wrist that displays a photo of the deceased as well as demographic information. A sample of DNA is retained as a matter of record.

CAUSE OF DEATH: Anomalous Right Coronary Artery Complicated by Atherosclerotic Cardiovascular Disease

MANNER OF DEATH: Natural

FINAL AUTOPSY DIAGNOSES:

I. **Anomalous right coronary artery**

II. **Atherosclerotic Cardiovascular Disease, with up to 70% luminal narrowing of the left anterior descending coronary artery, 25-30% luminal narrowing of the left circumflex coronary artery, up to 60% luminal narrowing of the right coronary artery, and mild intimal thickening of the left main coronary artery**

III. **Cardiomegaly (Heart weight 480-grams); dilatation of the right atrium and right ventricle of the heart**

IV. **Abrasion of the medial right wrist. Contusion of the posterior left hand and left wrist. No other external or internal evidence of significant recent injury**

V. **Evidence of a healed fracture of the right femur, consistent with the history of injuries in a motor vehicle crash in 1983**

VI. **Early decomposition changes, including vascular marbling and green discoloration of soft tissue**

VII. **Toxicology is negative for ethanol and screened drugs of abuse. Blood carboxyhemoglobin and cyanide concentrations are not elevated. Blood and bile have small amounts of acetone and 2-propanol present.**

EXTERNAL EXAMINATION

The remains are received clad in white undershorts and a partially cut away white overgarment. They consist of a well-developed, well-nourished, male. Early to moderate decomposition changes are present, including green discoloration of soft tissue and marbling of the vasculature. Livor is posterior and fixed, except in areas exposed to pressure. Rigor is present but passing. The body temperature is that of the refrigeration unit.

The scalp is covered with medium length, black hair in a normal distribution. The corneae are cloudy and the eyes have lost considerable turgor. The sclerae are unremarkable. The irides are brown and the pupils are round and equal in diameter. The teeth are natural and in fair condition. Facial hair consists of a black beard and mustache. There is marked suffusion of the soft tissue of the face and neck. A 1/8-inch pigmented nevis is on the posterior neck.

The neck is mobile and the trachea is midline. The chest is symmetric and unremarkable. The abdomen is protuberant but free of evidence of injury. A 1/8-inch nevis is on the right upper back. The external 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 remarkable only for a ¼-inch skin tag on the superior-medial right buttock. The upper and lower extremities are symmetric and without clubbing or edema. The fingernails are intact. A 16 x 1-inch-inch scar is on the lateral right thigh. There is a scar on the lateral, proximal left arm that is consistent with a remote vaccination.

An identification band on the right wrist has a picture of the decedent and (b)(6) (b)(6) No tattoos or other identifying body marks are noted.

MEDICAL INTERVENTION

Evidence of medical intervention includes an endotracheal tube that enters the right mainstem bronchus via the mouth, a Foley catheter in the urethra, and vascular access cut-down attempts on the medial aspect of both ankles

RADIOGRAPHS

A complete set of postmortem radiographs is obtained and demonstrates an absence of acute skeletal trauma and metallic foreign bodies. There is evidence of a remote fracture of the right femur that is now healed

EVIDENCE OF INJURY

On the posterior aspect of the right hand and right wrist is a 1 ½ x 1-inch area of ecchymosis. A ½ x ¼-inch abrasion is on the medial aspect of the right wrist. There is no other evidence of significant acute injury.

INTERNAL EXAMINATION

HEAD:
The scalp, skull, and brain have no evidence of acute injury. There is some softening of the brain present, due to decomposition. The brain weighs 1350-grams and sectioning reveals no parenchymal injuries and no evidence of significant natural disease processes.

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

BODY CAVITIES:
The ribs, sternum, and vertebral bodies are visibly and palpably intact. Both pleural cavities contain 20-milliliters of decomposition fluid. There is no excess accumulation of fluid in the peritoneal cavity. There are 10-milliliters of decomposition fluid in the pericardial sac. The organs occupy their usual anatomic positions.

RESPIRATORY SYSTEM:
The right and left lungs weigh 800 and 670-grams, respectively, and are markedly congested. The external surfaces are red-purple, with moderate anthracotic pigment deposition. The pulmonary parenchyma is diffusely congested, without mass lesions or areas of consolidation. The pulmonary arteries are unremarkable.

CARDIOVASCULAR SYSTEM:
The 480-gram heart is contained in an intact pericardial sac. A formal Cardiovascular Pathology consultation is available as a separate document. In summary, the consultant demonstrated an anomalous right coronary artery with a high takeoff and a course that runs between the aortic and pulmonic roots. The coronary circulation is right dominant and there is moderate luminal narrowing by atherosclerosis, with the most severely affected vessel being the left anterior descending coronary artery per the consultant's report. Decomposition changes and myocyte hypertrophy are described on examination of histologic sections of myocardium as performed by the consultant. The aorta gives rise to three intact and patent arch vessels. The renal and mesenteric vessels are unremarkable.

LIVER & BILIARY SYSTEM:
The 1470-gram liver has an intact capsule and a sharp anterior border. The parenchyma is tan-brown and congested. No mass lesions or other abnormalities are noted. The gallbladder contains 25-milliliters of green-black bile and no stones. The mucosal surface is green and velvety. The extrahepatic biliary tree is patent.

SPLEEN:
The 40-gram spleen has a smooth, intact, red-purple capsule. The parenchyma is maroon, soft, congested, and exhibits early decomposition changes. A 1-centimeter accessory spleen is noted.

PANCREAS:
The pancreas is soft and exhibits changes of decomposition. The usual lobular architecture is present. No mass lesions or other abnormalities are seen.

ADRENAL GLANDS:
The right and left adrenal glands are symmetric, with yellow cortices and gray medullae. Decomposition changes are prominent. No masses or areas of hemorrhage are identified.

GENITOURINARY SYSTEM:
The right and left kidneys weigh 100 and 130-grams, respectively. The external surfaces are intact and smooth. The cut surfaces are red-tan and congested, with uniformly thick cortices and distinct corticomedullary junctions. The pelves are unremarkable and the ureters are normal in course and caliber. White bladder mucosa overlies an intact bladder wall. The urinary bladder is empty. 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.

GASTROINTESTINAL TRACT:
The esophagus is intact and lined by smooth, gray-white mucosa. The gastric wall is intact and lined by unremarkable mucosa. The stomach contains 20-milliliters of brown fluid. The duodenum, loops of small bowel, and colon are unremarkable. The appendix is present.

MUSCULOSKELETAL:
No non-traumatic abnormalities of muscle or bone are identified.

MICROSCOPIC EXAMINATION

Select portions of major organs are retained in formalin, with preparation of microscopic slides only for the examination of the heart (see Cardiovascular Pathology consultation).

ADDITIONAL PROCEDURES/REMARKS

- Documentary photographs are taken by OAFME staff photographers
- Specimens retained for toxicologic testing and/or DNA identification are: heart blood, bile, brain, lung, kidney, liver, spleen, adipose tissue, and psoas muscle
- The dissected organs are forwarded with the body

OPINION

This male Iraqi detainee died as a result of an anomalous right coronary artery complicated by atherosclerotic cardiovascular disease. The abnormal anatomic course of the right coronary artery would be sufficient to account for death due to a fatal cardiac arrhythmia. The atherosclerosis noted at autopsy as well as the presence of an enlarged heart would make an arrhythmia even more likely. The only evidence of injury noted at autopsy was small abrasions and contusions that are consistent with the application of wrist restraints. The volatiles present on toxicologic studies are consistent with postmortem production due to decomposition. Test for exposure to cyanide and carbon monoxide were negative as was a drug screen. The manner of death is natural.

(b)(6)

(b)(6) **Medical Examiner**

PATIENT IDENTIFICATION
(b)(6)
BTB ADAMA, Kareem Maktoof
(b)(6)
September 2, 2005

(b)(6)

1413 Research Blvd.
Bldg. 102
Rockville, MD 20850

FINAL DIAGNOSIS

DIAGNOSIS: (b)(6)

1. **Anomalous right coronary artery with high takeoff above commissure between left and right coronary cusps and proximal course between aortic and pulmonic roots**
2. **Moderate coronary atherosclerosis**

History: 46 year old Male Iraqi detainee found unresponsive in jail cell; recent complaints of abdominal discomfort

Heart: 480 grams, per autopsy protocol; dusky purple-gray discoloration of epicardial surface, predominantly right atrium and right ventricle; closed foramen ovale; normal left ventricular chamber dimensions: left ventricular cavity diameter 35 mm, left ventricular free wall thickness 9 mm, ventricular septum thickness 11 mm; dilatation of right atrium and right ventricle: right ventricle thickness 3 mm; unremarkable valves and endocardium; induration and transmural dark purple discoloration of right atrium and right ventricle; histologic sections show early post-mortem decomposition, mild left ventricular myocyte hypertrophy with patchy subendocardial interstitial fibrosis and fat deposition; sections of right ventricle show intracellular granular brown pigment consistent with formalin pigment, but no myocardial necrosis is seen

Coronary arteries: Right dominant circulation; anomalous right coronary artery with ostium located 15 mm above commissure between left and right coronary cusps, ostial ridge and proximal course between aortic and pulmonic roots;

Left main coronary artery: Mild intimal thickening

Left anterior descending artery (LAD): 40% luminal narrowing of proximal LAD by neointimal thickening; 70% narrowing of mid LAD by healed plaque erosion with smooth muscle rich neointimal thickening and focal intimal organizing fibrin deposition

Left circumflex artery (LCA): 25 to 30% narrowing of proximal and mid LCA by fibroatheroma

Right coronary artery (RCA): 50% narrowing of proximal RCA by healed erosion with organized and recanalized thrombus; 60% narrowing of mid RCA by fibroatheroma

Comment: The cause of death is attributed to the anomalous right coronary artery in conjunction with moderate atherosclerosis. The mechanism of death is likely arrhythmic.

(b)(6) **ADAMA, Kareem Maktoof**

Anomalous right coronary artery

(b)(6)

Cardiovascular Pathologist

ıade: 18 (10 heart, 8 coronary arteries)
ıde: 26 (18 H&E, 8 Movat)

(b)(6)

CERTIFICATE OF DEATH (OVERSEAS)

Acte dé 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 Social
BTB Adama, Kareem, Maktoof		Civilian	(b)(6)
ORGANIZATION Organisation	**NATION** (e.g. United States) Pays	**DATE OF BIRTH** Date de naissance	**SEX** Sexe
Iraqi Detainee	Iraq		[X] MALE [ ] FEMALE

RACE Race		MARITAL STATUS État Civil			RELIGION Culte		
[X]	CAUCASOID Caucasique	[ ]	SINGLE Célibataire	[ ] DIVORCED Divorcé	[ ] PROTESTANT Protestant	[X]	OTHER (Specify) Autre (Spécifier)
[ ]	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 sus
STREET ADDRESS Domicilé 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 décés (N'indiquer qu'une cause par ligne)			INTERVAL BETWEEN ONSET AND DEATH Intervalle entre l'attaque et le décés
DISEASE OR CONDITON DIRECTLY LEADING TO DEATH [1] Maladie ou condition directement responsable de la mort.		Anomalous Right Coronary Artery Complicated by Atherosclerotic Cardiovascular Disease	
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 [2]			

MODE OF DEATH Condition de décés	AUTOPSY PERFORMED Autopsie effectuée [X] YES Oui [ ] NO Non	CIRCUMSTANCES SURROUNDING DEATH DUE TO EXTERNAL CAUSES Circonstances de la mort suscitées par des causes extérieures
[X] NATURAL Mort naturelle	MAJOR FINDINGS OF AUTOPSY Conclusions principales de l'autopsie	
[ ] ACCIDENT Mort accidentelle	NAME OF PATHOLOGIST Nom du pathologiste (b)(6)	
[ ] SUICIDE Suicide	(b)(6) DATE Date 4 August 2005	AVIATION ACCIDENT Accident à Avion [ ] YES Oui [X] NO Non
[ ] HOMICIDE Homicide		

DATE OF DEATH (Hour, day, month, year) Date de décés (Heure, le jour, le mois, l'année)	PLACE OF DEATH Lieu de décés
(b)(6) 2005	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 je conclus que le décés 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 diplômé
(b)(6)	Medical Examiner

GRADE Grade	INSTALLATION OR ADDRESS Installation ou adresse
(b)(6)	Dover AFB, Dover DE
DATE Date 21 Sep 2005	(b)(6)

[1] State disease, injury or complication which caused death
[2] State conditions contributing to the death, but not related
[1] Préciser la nature de la maladie, de la blessure ou de la
[2] Préciser la condition qui a contribué à la mort, mais n'a

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

DISPOSITON OF REMAINS			
NAME OF MORTICIAN PREPARING REMAINS	GRADE	LICENSE NUMBER AND STATE	OTHER
INSTALLATION OR ADDRESS	DATE	SIGNATURE	
NAME OF CEMETERY OR CREMATORY	LOCATION OF CEMETERY OR CREMATORY		
TYPE OF DISPOSTION	DATE OF DISPOSTION		

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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