



ARMED FORCES INSTITUTE OF PATHOLOGY
Office of the Armed Forces Medical Examiner
 1413 Research Blvd., Bldg. 102
 Rockville, MD 20850
 1-301-319-0000



FINAL AUTOPSY EXAMINATION REPORT

Name: BTB RAKAD, Hassan Hadan
 ISN: (b)(6)
 Date of Birth: BTB (b)(6) 1931
 Date of Death: (b)(6) 2005
 Date/Time of Autopsy: 22 DEC 2005 @ 1200
 Date of Report: 20 JUL 2006

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

Circumstances of Death: This 74-year-old Iraqi civilian male detainee was hospitalized for a non-reducible right inguinal hernia on 18 NOV 2005. Surgery was performed, and a long hospital course ensued with numerous complications that required ventilator support and blood transfusions. The patient has a remote history of mitral valve replacement with an artificial valve. In the final two days of his hospital course, the patient had a number of cardiac arrests where Advanced Cardiac Life Support protocols were performed. He expired on (b)(6) 2005 at 1820.

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

Identification: Presumptive identification is established based on identification bracelets and ISN. Fingerprints and DNA were taken to compare to exemplars when available.

CAUSE OF DEATH: SEPSIS DUE TO BILATERAL LOBAR PNEUMONIA
 DUE TO RECENT INGUINAL HERNIA SURGERY

MANNER OF DEATH: NATURAL

FINAL AUTOPSY DIAGNOSES:

- I. Complications of Right Inguinal Hernia Repair**
 - A. Bilateral lobar pneumonia
 1. Right lung weight 1,190-grams
 - a. Complete consolidation
 - b. Multiple abscesses in the inferior lower lobe of the right lung
 2. Left lung weight 1,270-grams, completely consolidated
 3. See attached Pulmonary Pathology consultation addendum (1) for complete details
 - B. Multiple punctate abscesses of both kidneys, ranging in size from 0.1-centimeters to 0.4-centimeters
 - C. Anasarca
 - D. Cerebral edema (brain weight 1,460-grams) without evidence of herniation

- II. Other Natural Disease**
 - A. Cardiovascular disease
 1. Cardiomegaly (heart weight 610-grams) with interstitial and patchy replacement fibrosis
 2. Remote history of mitral valve replacement (28-millimeter Medtronic-Hall prosthesis) and associated diffuse pulmonary dendriform ossification
 3. Focal moderate coronary atherosclerosis with calcification
 4. See attached Cardiovascular Pathology consultation addendum (2) for complete details
 - B. Left adrenal adenoma (bright yellow, 5.3 x 3.9-centimeters)
 - C. Right renal cortical cyst (1.5 x 1.2-centimeters)
 - D. Coarsely granular cortex of both kidneys
 - E. Moderate aortic atherosclerosis with focal ulceration in the abdominal aorta
 - F. Cholelithiasis (1.3-centimeter black calculi)

- III. Evidence of Medical Therapy**
 - A. Endotracheal tube (appropriately placed)
 - B. Left nasogastric tube (appropriately placed)
 - C. Right and left chest tubes in the 3rd intercostal spaces, mid-axillary line
 - D. Urinary bladder catheter
 - E. Triple-lumen intravenous line in the right subclavian region
 - F. Recent right inguinal surgical incision (stapled closed, 11.0 x 0.6-centimeters)
 - G. Electrocardiogram electrodes on the anterior torso
 - H. Multiple ecchymoses with central needle-stick marks on the abdomen
 - I. Fracture of the sternum at the level of the anterior 3rd ribs (resuscitation-related)
 - J. Fractures of the 4th through 6th anterior right ribs and the 2nd through 7th anterior left ribs (resuscitation-related)
 - K. Right radial arterial line

IV. Toxicology

- A. The blood and vitreous fluid are tested for ethanol and none is found.
B. The blood is screened for medications and drugs of abuse, and the following medications are found:
1. The blood contains 0.43 milligrams per liter of Diphenhydramine
 2. The blood contains 1.3 milligrams per liter of Ephedrine

EXTERNAL EXAMINATION

The body is that of a well-developed, well-nourished appearing, 63-inch, and 174-pound male whose appearance is consistent with the reported age of 74 years. Lividity is fixed and posterior. Rigor is equal in all extremities and the temperature is that of the refrigeration unit.

The scalp is covered with gray-black hair in a normal distribution. The irides are brown and the pupils are round and equal in diameter. The external auditory canals are free of abnormal secretions and debris. 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 fair condition.

The neck is straight, and the trachea is midline and mobile. The chest is symmetric with a well healed, 10 ½-inch, linear midline sternotomy incision. The lower back is remarkable for a 2 ½ x 2 ½-inch decubitus ulcer with a dressing. The abdomen is flat and atraumatic. Multiple ecchymoses with central needle-stick marks are present on the abdomen. There is a recent right inguinal surgical incision, 11.0 x 0.6-centimeters, which is stapled closed and without signs of drainage or infection. The genitalia are those of a normal adult male. The testes are descended and free of masses. A 2 x ¼-inch area of ulceration is present on the posterior scrotum. Pubic hair is present in a normal distribution. The buttocks and anus are unremarkable.

The upper and lower extremities are symmetric and without clubbing. Anasarca is present. There are three areas of ecchymosis on the posterior left lower extremity that range in size from 2 x 1-inch to 4 ½ x 2-inches. There is a 2-inch linear scar on the medial right leg and a 1-inch puckered scar on the posterior lower left leg.

CLOTHING AND PERSONAL EFFECTS

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

- Hospital gown only

MEDICAL INTERVENTION

- Endotracheal tube (appropriately placed)
- Left nasogastric tube (appropriately placed)

- Right and left chest tubes in the 3rd intercostal spaces, mid-axillary line
- Urinary bladder catheter
- Triple-lumen intravenous line in the right subclavian region
- Right radial arterial line
- Recent right inguinal surgical incision (stapled closed, 11.0 x 0.6-centimeters)
- Electrocardiogram electrodes on the anterior torso
- Multiple ecchymoses with central needle-stick mark on the abdomen
- Fracture of the sternum at the level of the anterior 3rd ribs (resuscitation-related)
- Fractures of the 4th through 6th anterior right ribs and the 2nd through 7th anterior left ribs (resuscitation-related)

RADIOGRAPHS

A complete set of postmortem radiographs is obtained and demonstrates the following:

- No long bone fractures are noted
- No metallic foreign bodies are noted (except medical devices)
- Anterior rib and sternal fractures (resuscitation-related)
- Sternal wires (remote sternotomy)
- Gallstone
- Pneumoperitoneum (secondary to recent surgery)
- Prosthetic mitral valve (remote repair)

EVIDENCE OF INJURY

There is no evidence of significant recent injury.

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 1,460-gram brain, which has slightly widened gyri and narrowed sulci, without evidence of uncal or tonsillar notching. 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, cerebellum, and arterial systems are free of injury or other abnormalities. 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. The larynx is lined by intact white mucosa. The thyroid gland is symmetric and red-brown, without cystic or nodular change. The tongue is free of bite marks, hemorrhage, or other injuries.

BODY CAVITIES:

The vertebral bodies are visibly and palpably intact. The sternum is fractured at the level of the 3rd ribs, and has a remote midline sternotomy, with wires in place. The 4th through 6th anterior right ribs and the 2nd through 7th anterior left ribs are fractured. 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 weigh 1,190 and 1,270-grams, respectively. The external surfaces are rough and deep red-purple. The pulmonary parenchyma is congested and edematous with diffuse calcifications. The right lung is consolidated, and multiple abscesses are noted in the inferior portion of the lower lobe. The left lung is completely consolidated. Representative microscopic sections are submitted for Pulmonary Pathology consultation (see Addendum 1 for complete details).

CARDIOVASCULAR SYSTEM:

The heart and pericardial sac weigh 610-grams and are entirely submitted for Cardiovascular Pathology consultation (see Addendum 2 for complete details). The aorta has moderate atherosclerosis with focal ulceration and gives rise to three intact and patent arch vessels. The renal and mesenteric vessels are unremarkable.

LIVER & BILIARY SYSTEM:

The 1,660-gram 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 a minute amount of green-black bile and a single 13-millimeter black-green gallstone. The mucosal surface is green and velvety. The extrahepatic biliary tree is patent.

SPLEEN:

The 420-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 adrenal gland is autolyzed, with bright yellow cortices and grey medullae. No masses or areas of hemorrhage are identified. The left adrenal gland contains a 5.3 x 3.9-centimeter, well-circumscribed, bright yellow mass.

GENITOURINARY SYSTEM:

The right and left kidneys weigh 180 and 170-grams, respectively. The external surfaces are intact and coarsely pitted bilaterally. There are multiple, soft, yellow, punctate abscesses on the cortical surfaces of both kidneys which range in size from 0.1-

centimeters to 0.4-centimeters. The cut surfaces are red-tan and congested, with uniformly thick cortices and sharp corticomedullary junctions. The right kidney contains a 1.5 x 1.2-centimeter, smooth-walled simple cyst. The pelves are unremarkable and the ureters are normal in course and caliber. Pink-grey 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. The stomach contains no fluid; the gastric wall is intact. The duodenum, loops of small bowel and colon are unremarkable. The appendix is present.

MUSCULOSKELTAL SYSTEM:

There are no non-traumatic bone or joint abnormalities. Skeletal muscle development is normal.

MICROSCOPIC EXAMINATION

Portions of organs are retained in formalin, with preparation of selected histological slides.

LUNGS:

See the attached Pulmonary Pathology consultation Addendum (1) for complete details

HEART:

See the attached Cardiovascular Pathology consultation Addendum (2) for complete details.

SPLEEN:

No pathologic diagnosis.

LIVER:

Passive congestion is present, without hepatocyte necrosis.

SPERMATIC CORD:

Fibrosis and edema are noted. The vas deferens is normal.

SCROTAL SKIN:

Skin with granulation tissue is present; no abscess is noted.

LEFT ADRENAL GLAND:

A uniform population of benign-appearing cells is present, consistent with adrenal adenoma.

ADDITIONAL PROCEDURES/REMARKS

- Documentary photographs are taken by AFMES staff photographers
- Specimens retained for toxicologic testing and/or DNA identification are: peripheral blood, vitreous fluid, gastric contents, bile, spleen, liver, lung, kidney, brain, adipose tissue, and psoas muscle
- The body is sutured closed without embalming, and the dissected organs are forwarded with the body
- No personal effects are present
- The following identifying body marks are present: Midline sternotomy scar (well-healed, 10 ½-inches), scar on the posterior left leg (puckered, 1-inch), scar on the anterior right leg (well-healed, 2-inches)

OPINION

This 74-year-old male, (BTB) (b)(6) died of sepsis due to bilateral lobar pneumonia due to recent inguinal hernia surgery. There was significant pre-existing cardiovascular disease to include a prior mitral valve replacement, moderate coronary artery disease and left ventricular hypertrophy due to hypertension. There was also pre-existing diffuse pulmonary dendriform ossification of both lungs, which was due to the prosthetic mitral valve. These pre-existing conditions likely contributed to the decedent's death. Toxicological testing was negative for ethanol and drugs of abuse. Ephedrine (a sympathetic stimulant) and Diphenhydramine (an antihistamine) were present in the blood at therapeutic levels. The manner of death is natural.

(b)(6)

(b)(6) ~~Medical Examiner~~

(b)(6)

(b)(6) ~~Medical Examiner~~

ADDENDUM 1

Pulmonary Pathology Consultation:

USE INK OR BALL-POINT PEN ONLY *11 H&E SLIDES, 11 BLOBS* (b)(6)

CONSULTATIONS		AFIP ACCESSION NUMBER: (b)(6)
THIS IS A PERMANENT PART OF THE RECORD AND IS NOT TO BE REMOVED FROM THE FOLDER		
PLEASE CIRCULATE AMONG THE FOLLOWING OFFICERS ----- AND THEN RETURN TO THE REVIEWING OFFICER -----		<i>Resident Path</i>
MEMO FROM REVIEWING OFFICER: <i>PLEASE SEE ATTACHED PAD</i> <i>74 y male with long hospital course, sepsis, pneumonia and MOSF. Lung sections show DAD and dystrophic calc. Please eval and comment</i> <i>15MAY06</i> (b)(6)		↓ <i>DARME</i>
(DATE)	(REVIEWING OFFICER)	
<p><i>22 May 06</i></p> <ul style="list-style-type: none"> - Acute and organizing diffuse alveolar damage - Acute bronchopneumonia & alveolar formation - Pulmonary infarcts & thrombus formation - Dendroform (raccuse) ossification. <p><i>There is acute and organizing DAD, which can have a multitude of causes such as; shock, toxic inhalation, drug, infection etc. The bronchopneumonia is probably 2° to the infarctions. Dendroform ossification is usually seen in older men and is associated to fibrosis, emphysema, amyloidosis etc as is likely in this case, & mitral stenosis.</i></p> <p style="text-align: right;">(b)(6)</p>		

ADDENDUM 2

Cardiovascular Pathology Consultation:

PATIENT IDENTIFICATION

CAP (b)(6)
BTB (b)(6)
ME (b)(6) (b)(6)
May 1, 2006

REPLY TO
ATTENTION OF

(b)(6)

1413 Research Blvd. Bldg. 102
Rockville, MD 20850

FINAL DIAGNOSIS

DIAGNOSIS: (b)(6) **Heart, post mortem examination:**

- 1. Cardiomegaly (610 grams) with interstitial and patchy replacement fibrosis, left ventricle**
- 2. Focal moderate coronary atherosclerosis with calcification**
- 3. Status post 28 mm Medtronic-Hall mitral valve prosthesis**

History: 74-year-old Iraqi civilian male detainee hospitalized for a non-reducible right inguinal hernia, status post surgical repair with protracted hospital course and numerous complications including pneumonia; remote history of mitral valve replacement; subject expired secondary to sepsis; (b)(6) 2005.

Heart: 610 grams; dense epicardial adhesions; closed foramen ovale, with adjacent sutures; oversewn right atrial appendage; concentric left ventricular hypertrophy: left ventricular cavity diameter 35 mm, left ventricular free wall thickness 17 mm, ventricular septum thickness 16 mm, right ventricle thickness 5 mm; 28 mm diameter Medtronic-Hall tilting disc mechanical prosthetic valve in mitral position, sutures intact, disc moves freely, no vegetations, leaks or other grossly evident structural defects; other valves and endocardium grossly unremarkable; no myocardial necrosis; posterior wall left ventricle shows focal scar; histologic sections show myocyte hypertrophy with subendocardial and perivascular interstitial fibrosis and patchy replacement fibrosis, lateral and posterior walls of left ventricle

Coronary arteries: Normal ostia; right dominance; moderate coronary atherosclerosis with calcification
Left anterior descending artery (LAD): 60% narrowing of mid LAD by fibrocalcific plaque
Right coronary artery (RCA): 40% narrowing of proximal RCA by fibrocalcific plaque

(b)(6)

Staff pathologist

Blocks made: 7 (5 heart, 2 coronary arteries)
Slides made: 9 (7H&E, 2 Movat)

CERTIFICATE OF DEATH (OVERSEAS) Acte de décès (D'Outre-Mer)			
NAME OF DECEASED (Last, First, Middle) Nom du décès (Nom et prénoms) BTB Rakad, Hassan, Hadan		GRADE Grade	BRANCH OF SERVICE Armée Civilian
ORGANIZATION Organisation		NATION (e.g. United States) Pays Iraq	SOCIAL SECURITY NUMBER Numéro de l'Assurance Sociale (b)(6)
		DATE OF BIRTH Date de naissance (b)(6) 1931	SEX Sexe <input checked="" type="checkbox"/> MALE <input type="checkbox"/> FEMALE
RACE Race		MARITAL STATUS État Civil	
CAUCASOID Caucasique		SINGLE Célibataire	
NEGROID Négride		MARRIED Marié	
<input checked="" type="checkbox"/> OTHER (Specify) Autre (Spécifier)		WIDOWED Veuve	
		DIVORCED Divorcé	
		SEPARATED Séparé	
		PROTESTANT Protestant	
		CATHOLIC Catholique	
		JEWISH Juif	
NAME OF NEXT OF KIN Nom du plus proche parent		RELATIONSHIP TO DECEASED Parenté du décès avec le sus.	
STREET ADDRESS Domicile à (Rue)		CITY OR TOWN OR STATE (include ZIP Code) Ville (Code postal) pays	
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. Sepsis due to bilateral lobar pneumonia due to recent inguinal hernia repair			Days
PREVIOUS 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 sous-jacente		
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 suscitée 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	ALIAS OF DEATHS INDEX Nom de l'assimilation		AVIATION ACCIDENT Accident à Avion <input type="checkbox"/> YES Oui <input checked="" type="checkbox"/> NO Non
<input type="checkbox"/> SUICIDE Suicide	(b)(6)		
<input type="checkbox"/> HOMICIDE Homicide	(b)(6)		
DATE OF DEATH (day, m, y) Date du décès (en jour, m, a)	(b)(6) 2005		
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 conclus que le décès est survenu à l'heure indiquée et à la suite des causes énumérées ci-dessus.			
NAME OF PHYSICIAN, OCCIDENTAL Nom du médecin occidental du médecin assistant		TITLE OR RANK Titre ou diplôme Medical Examiner	
GRADE Grade (b)(6)		INSTALLATION OR ADDRESS Installation ou adresse Dover AFB, Dover DE	
DATE Date 22 December 2005		(b)(6)	

DD FORM 1 APR 77 2064

REPLACES DA FORM 1364, 1 JAN 73 AND DA FORM 1364-R (P&S), 28 SEP 74, WHICH ARE OBSOLETE.

MEDCOM 0215

(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	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			

DD FORM 2064, APR 1977 (BACK)

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