

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: (BTB) HASHIM, Lo'y Lafta

ISN: (b)(6)

Date of Birth: (BTB)(b)(6)

Date of Death: (b)(6)

2008

Autopsy No.: (b)(6) AFIP No.: (b)(6)

Rank: Civilian Detainee Place of Death: Iraq

Date/Time of Autopsy: 22 DEC 2008 @ 0930 Place of Autopsy: Port Mortuary, Dover AFB, DE

Date of Report: 19 FEB 2008

Circumstances of Death: This (BTB) 24-year-old male Iraqi Civilian Detainee was noted by his fellow detainees to have difficulty breathing and then became unresponsive. CPR was initiated immediately, and was escalated to full ACLS protocol upon arrival to the CSH. Resuscitative efforts were to no avail.

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

Identification: Presumptive identification is established by an identification band on the left wrist. Positive identification is established by comparison of postmortem DNA examination and antemortem DNA records according to ISN.

CAUSE OF DEATH:

ATRIOVENTRICULAR NODAL ARTERY DYSPLASIA

MANNER OF DEATH:

NATURAL

EXTERNAL EXAMINATION

The body is that of a well-developed, well-nourished Caucasoid male received unclad. The body weighs 184-pounds, is 69 ½-inches in length and appears compatible with the reported age of 24-years. The body is cold. Rigor is passing and present to an equal degree in all extremities. Violaceous lividity is present and fixed on the posterior surface of the body, except in areas exposed to pressure. Green discoloration of the skin of the lower right abdomen is noted. The body is unembalmed.

The head is normocephalic, and the scalp hair is dark and approximately 2-inches in length. Facial hair consists of dark beard stubble and a soul patch. The irides are brown, the pupils are round and equal in size, the corneae are cloudy, the conjunctivae are slightly injected, and the sclerae are white. The external auditory canals, external nares and oral cavity are free of foreign material and abnormal secretions. The earlobes are not pierced. The nasal skeleton and maxilla are palpably intact. The lips and oral mucous membranes are without evident injury. The teeth are natural and in good condition. Examination of the neck reveals no evidence of injury; the trachea is palpably in the midline of the neck.

The chest is symmetric with normally formed male breasts that are free of masses. No evidence of injury of the ribs or the sternum is evident externally. The abdomen is flat without recent trauma. Healed surgical scars are not noted on the torso. The external genitalia are those of a normal adult circumcised male. The posterior torso and anus are without note.

The extremities are symmetric and normally formed without evidence of significant recent trauma. The fingernails appear cyanotic and are trimmed and intact. The toenails are unremarkable. (b)(6) (b)(6) tattoos (b)(6) There is an identification bracelet around the left wrist.

CLOTHING AND PERSONAL EFFECTS

The following items accompany the body:

- White undershirt (cut)
- White underpants
- White pants
- Yellow jacket
- Yellow shorts
- White towel
- Two prayer rugs

MEDICAL INTERVENTION

- Endotracheal tube (properly located)
- Cardiac pacing pads on the anterior torso (properly located)
- Electrocardiogram electrodes on the anterior torso
- Intravenous lines inserted in both antecubital fossae

- · Elastic medical bandages around both wrists
- Pulse-oximetry sensor on the right 2nd digit (forefinger)
- Urinary bladder catheter (properly located) with attached reservoir bag containing 50-millilters of clear yellow urine

RADIOGRAPHS

A complete set of postmortem radiographs and CT images are obtained and demonstrates the following:

- · Medical therapy as described above
- No metallic foreign bodies
- No fractures are noted

EVIDENCE OF INJURY

There is no evidence of recent significant injury.

INTERNAL EXAMINATION

BODY CAVITIES:

The body is opened by the usual thoraco-abdominal incision and the chest plate is removed. The ribs, stemum, and vertebral bodies are visibly and palpably intact. No adhesions are present in any of the body cavities. All body organs are present in normal anatomical position. There is clear, straw-colored serous fluid in both pleural cavities (right, 200-milliliters; left, 300-milliliters) as well as the peritoneal cavity (200-milliliters).

The subcutaneous fat layer of the abdominal wall is 1-inch thick at the umbilicus.

HEAD AND CENTRAL NERVOUS SYSTEM:

The scalp is reflected. The galeal and subgaleal soft tissues of the scalp are free of injury. There are no skull fractures. The calvarium of the skull is removed. The dura mater and falx cerebri are intact. There is no epidural, subdural or subarachnoid hemorrhage present. The leptomeninges are thin and delicate. The cerebral hemispheres are symmetrical with an unremarkable pattern of gyri and sulci. The blood vessels at the base of the brain are intact and symmetrical without significant atherosclerosis. The cranial nerves are likewise symmetrical and intact.

The brain weighs 1,440-grams and is fixed prior to further examination and submission for expert consultation.

Coronal sections through the cerebral hemispheres reveal no focal lesions in the cortex, white matter or deep nuclear structures. There is no midline shift. The ventricles of the brain are of normal size and contain clear cerebrospinal fluid. Transverse sections through the brain stem and cerebellum are unremarkable. See Addendum A for complete details.

Page 4 of 10

The upper spinal cord as viewed through the foramen magnum is unremarkable. The atlantooccipital joint is stable.

NECK:

The anterior strap muscles of the neck are homogenous and red-brown, without hemorrhage by layer-wise dissection. The thyroid cartilage and hyoid bone are intact. The larynx is lined by intact pink-white mucosa. The tongue is free of bite marks, hemorrhage, or other injuries.

CARDIOVASCULAR SYSTEM:

The 440-gram heart is contained in an intact pericardial sac. The epicardial surface is smooth, with minimal fat investment. The coronary arteries arise normally and are present in a normal distribution, with a right-dominant pattern. Cross sections of the major coronary arteries demonstrate no luminal narrowing. Trabeculae are noted in the apex of the right ventricle. The heart is fixed prior to further examination and submission for expert consultation.

The foramen ovale is closed. The cardiac chamber dimensions are normal. The myocardium is homogenous and firm without focal softening, discoloration or fibrosis. The valve leaflets are thin and mobile. The walls of the left ventricle, inter-ventricular septum, and right ventricle are 1.4, 1.4, and 0.3-centimeters thick, respectively. The endocardium is smooth and glistening. See Addendum B for complete details.

The aorta has minimal atherosclerosis and gives rise to three intact and patent arch vessels. The renal and mesenteric vessels are unremarkable.

RESPIRATORY SYSTEM:

The upper airway is clear of debris and foreign material: the mucosal surfaces are smooth, pink-tan and unremarkable. The parietal pleural surfaces are smooth, glistening and unremarkable bilaterally.

The right lung weighs 860-grams; the left 720-grams. The pulmonary parenchyma is diffusely congested and edematous, exuding slight to moderate amounts of blood and frothy fluid; no focal lesions are noted. The visceral pleural surfaces are smooth, glistening and unremarkable bilaterally.

The pulmonary arteries are normally developed, patent and without thrombus or embolus.

HEPATOBILIARY SYSTEM:

The 2,220-gram liver has an intact smooth capsule covering congested tan-brown parenchyma with no focal lesions noted.

The gallbladder contains 7-milliliters of green-brown, mucoid bile; the mucosa is velvety and unremarkable. The extrahepatic biliary tree is patent, without evidence of calculi.

GASTROINTESTINAL SYSTEM:

The esophagus is lined by gray-white, smooth mucosa. The gastric mucosa is arranged in the usual rugal folds and the lumen contains 40-milliliters of brown fluid.

Page 5 of 10

The small and large bowels are unremarkable. The pancreas has a normal pink-tan lobulated appearance. The appendix is present.

GENITOURINARY SYSTEM:

The right kidney weighs 160-grams; the left 160-grams. The renal capsules are smooth and thin, semi-transparent and strip with ease from the underlying smooth, red-brown cortical surfaces.

The cortices are sharply delineated from the medullary pyramids, which are red-purple to tan and unremarkable. The calyces, pelves and ureters are unremarkable.

White bladder mucosa overlies an intact bladder wall. The bladder is empty of urine. The testes, prostate gland and seminal vesicles are without note.

LYMPHORETICULAR SYSTEM:

The thymus is small, fatty and otherwise unremarkable. The 340-gram spleen has a smooth, intact capsule covering congested, red-purple, moderately firm parenchyma; the lymphoid follicles are unremarkable.

Lymph nodes in the hilar, periaortic and iliac regions are not enlarged. Marked anthracosis is noted in the hilar lymph nodes.

ENDOCRINE SYSTEM:

The pituitary gland is examined in situ and is grossly unremarkable. The thyroid gland is symmetric and red-brown, without cystic or nodular change. The parathyroid glands are not identified. The right and left adrenal glands are symmetric, with bright yellow cortices and red-brown medullae; no masses or areas of hemorrhage are identified.

MUSCULOSKELETAL SYSTEM:

Superficial posterior skin incisions are negative for traumatic injuries. No non-traumatic abnormalities of muscle or bone are identified.

MICROSCOPIC EXAMINATION AND SLIDE KEY

Selected portions of organs are retained in formalin, and selected histology slides are prepared.

Thyroid (X2): No pathologic diagnosis.

Lymph Node (X2): Benign calcification and anthracotic pigment.

Lung (X3): Vascular congestion, focal pulmonary edema and anthracosis.
 Lung (X2): Vascular congestion, focal pulmonary edema and anthracosis.

Adrenal (X2): Medullary autolysis, otherwise unremarkable.
 Kidney (X2): Autolysis of tubule cells, otherwise unremarkable.

7a. Spleen: No pathologic diagnosis.

7b. Pancreas: Autolysis.

8. Liver & Gall Bladder: Vascular congestion and bile stasis of the liver. Autolysis of the gall

bladder is noted.

TOXICOLOGY

VOLATILES: The blood and urine are examined for the presence of volatile compounds including ethanol at a cutoff of 20-milligrams per deciliter. No ethanol is detected.

DRUGS: The urine is screened for medications and drugs of abuse including 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 drugs are detected:

<u>Positive Lidocaine</u>: Lidocaine was detected in the urine by gas chromatography and confirmed by gas chromatography/mass spectrometry.

<u>Positive Antihistamine</u>: Diphenhydramine was detected in the urine by gas chromatography and confirmed by gas chromatography/mass spectrometry. No diphenhydramine was detected in the blood at a limit of quantitation of 0.05-milligrams per liter using gas chromatography/mass spectrometry.

CARBON MONOXIDE: The carboxyhemoglobin saturation in the blood was less than 1% as determined by spectrophotometry with a limit of quantitation of 1%.

CYANIDE: There was no cyanide detected in the blood. The limit of quantitation for cyanide is 0.25-milligrams per liter.

ADDITIONAL PROCEDURES

- Documentary photographs are taken by (b)(6)
- 2. Autopsy assistance is provided by (b)(6)
- 3. Personal effects are released to the appropriate mortuary operations representatives.
- Specimens retained for toxicology testing and/or DNA identification are: vitreous fluid, blood, urine, bile, gastric contents, spleen, liver, lung, kidney, brain, myocardium, adipose tissue and skeletal muscle.
- The brain and heart are fixed and retained for expert consultation (see Addendums A and B, respectively, below).
- 6. The dissected organs are forwarded with the unembalmed body.
- 7. No trace evidence and/or foreign material are collected by OAFME.

FINAL AUTOPSY DIAGNOSES

I. Autopsy Findings

A. General

- Serous fluid in body cavities (200-milliliters right pleural, 300-milliliters left pleural, 200-milliliters peritoneal)
- 2. Vascular congestion of liver, spleen and both lungs
- 3. There is no evidence of physical abuse

- B. Cardiovascular System
 - 1. Mild cardiomegaly (440-gram heart, 368-grams expected for body weight)
 - 2. No coronary arteriosclerosis noted grossly
 - 3. Trabeculae noted in right ventricular apex
 - 4. Focal dysplasia of the atrioventricular nodal artery
- No other significant natural diseases or pre-existing conditions are identified, within the limitations of this examination.
- III. Evidence of Medical Therapy
 - A. Endotracheal tube (properly located)
 - B. Cardiac pacing pads on the anterior torso (properly located)
 - C. Electrocardiogram electrodes on the anterior torso
 - D. Intravenous lines inserted in both antecubital fossae
 - E. Urinary bladder catheter
- IV. Post-Mortem Changes
 - A. Rigor is passing and equal in all extremities
 - B. Lividity is posterior and fixed except in areas exposed to pressure
 - C. The body temperature is cold
 - D. There is green discoloration of the right lower abdomen
- V. Identifying Body Marks (b)(6) tattoos (b)(6)
- VI. There is no evidence of physical abuse.
- VII. Toxicology
 - A. No ethanol is detected in the blood and urine.
 - B. No drugs of abuse are detected in the urine.
 - C. No cyanide is present in the blood.
 - D. Carboxyhemoglobin saturation in the blood is less than 1%.
 - E. The following medications are detected in the urine but not the blood:
 - 1. Lidocaine
 - 2. Diphenhydramine

| AUTOPSY REPORT | (b)(6) | ٦ |
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| HASHIM, Lo'y Lafta | | _ |

Page 8 of 10

OPINION

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ADDENDUM A: Neuropathology Consultation Report

ARMED FORCES INSTITUTE OF PATHOLOGY NEUROPATHOLOGY REPORT CASE NUMBER (b)(6)

PATIENT NAME

DATE OF EXAMINATION: 01/08/09

GROSS DESCRIPTION:

Brain weight: 1326 gm

The specimen consists of the brain of an adult.

The leptomeninges are thin, delicate and transparent. The frontal lobe poles have been removed for toxicology studies.

The brain is pale and moderately, diffusely swollen having widened gyri, compressed sulci and partially effaced perisellar, perimesencephalic and cerebellomedullary cisterns. The gyri have an otherwise anatomically normal configuration.

There is no sign of herniation or midline shift. Tentorial grooves are not visible on either uncus. The cerebellar tonsils have a slightly swollen configuration. The external aspects of the brainstem and cerebellum are not remarkable. The arteries at the base of the brain follow a normal distribution and are free of atherosclerosis. There are no aneurysmal dilatations or sites of occlusion. The identifiable cranial nerve roots are not remarkable.

Coronal sections of the cerebrum reveal no focal lesions in the cortex, white matter or deep nuclear structures. There is no midline shift. Sections of the midbrain, pons, medulla and cerebellum show no diffuse or focal abnormalities. The substantia nigra end locus coeruleus are well pigmented.

The ventricular system and aqueduct of Sylvius are patent with a normal size and configuration. The choroid plexus is unremarkable and the ependymal surfaces are smooth and glistening.

PHOTOGRAPHS: yes

MICROSCOPIC EXAMINATION:

Blocks of tissue for microscopic examination are removed from: (1) right lateral frontal lobe, (2) cingulate gyri/anterior corpus callosum, (3) mid right cingulate gyrus/corpus callosum/caudate nucleus/anterior limb of internal capsule, (4) left thalamus/subthalamic nucleus/substantia nigra/posterior limb of the internal capsule, (5) right thalamus/ red nucleus /posterior limb of the internal capsule, (6) right hippocampus, (7) right calcarine cortex/occipital hom of lateral ventricle, (8) right cerebellum, (9) midbrain, (10) pons and (11) medulla.

Sections from each block are stained with H&E, Bielschowsky and LFB techniques and immunostained for β -amyloid precursor protein (β -APP), glial fibrillary acidic protein (GFAP) and β -amyloid.

COMMENT:

The microscopic changes show mild, diffuse edema in the form of perivascular vacuolization of the neuropil and white matter which is consistent with the mild grossly described changes. There is also mild acute gliosis in the form of astrocytic swelling, especially around blood vessels. These changes are agonal and not specific.

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NEUROPATHOLOGIST

AUTOPSY REPORT (b)(6)
HASHIM, Lo'y Lafta

ADDENDUM B: Cardiovascular Pathology Consultation Report

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| 1413 Research Blvd. | |
| Bldg. 102 Rockville, MD 20850 | |
| ROCKVIIIE, MID 20830 | |
| DIAGNOSIS: (b)(6) | 1 |
| No definitive cardiac cause of des | autopsy: |
| Focal dysplasia, atrioventricular | |
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| | ght 177 cm, weight 83 kg; civilian detainee; began having |
| 11.00 | |
| Heart: 440 g (per contributor) (pred | licted normal value 324 g, upper limit 458 g for 176 cm al cardiac chamber dimensions: left ventricular cavity |
| Heart: 440 g (per contributor) (pred male); closed foramen ovale; norma diameter 30 mm, left ventricular fro mm, right ventricular from acute an 4 mm; valves grossly unremarkable fibrosis; histologic sections demons | licted normal value 324 g, upper limit 458 g for 176 cm al cardiac chamber dimensions: left ventricular cavity se wall thickness 14 mm, ventricular septum thickness 14 agle to septum 30 mm, posterior right ventricle wall thickness c; normal endocardium; no gross myocardial scarring or strate no inflammation, scarring, or necrosis |
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Department of Cardiovascular Pathology

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NEUROPATHOLOGY REPORT

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PHOTOGRAPHS: yes

MICROSCOPIC EXAMINATION:

Blocks of tissue for microscopic examination are removed from: (1) right lateral frontal lobe, (2) cingulate gyri/anterior corpus callosum, (3) mid right cingulate gyrus/corpus callosum/caudate nucleus/anterior limb of internal capsule, (4) left thalamus/subthalamic nucleus/substantia nigra/posterior limb of the internal capsule, (5) right thalamus/ red nucleus /posterior limb of the internal capsule, (6) right hippocampus, (7) right calcarine cortex/occipital horn of lateral ventricle, (8) right cerebellum, (9) midbrain, (10) pons and (11) medulla.

Sections from each block are stained with H&E, Bielschowsky and LFB techniques and immunostained for β -amyloid precursor protein (β -APP), glial fibrillary acidic protein (GFAP) and β -amyloid.

COMMENT:

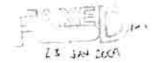
The microscopic changes show mild, diffuse edema in the form of perivascular vacuolization of the neuropil and white matter which is consistent with the mild grossly described changes. There is also mild acute gliosis in the form of astrocytic swelling, especially around blood vessels. These changes are agonal and not specific.

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NEUROPATHOLOGIST



DEPARTMENT OF DEFENSE ARMED FORCES INSTITUTE OF PATHOLOGY WASHINGTON, DC 20306-6000



AFIP Interdepartmental Consultation Report

| HASHIM, LO'Y L | (b)(6) |
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(b)(6)

AFIP (b)(6)

1413 Research Blvd.

Bldg. 102

Rockville, MD 20850

DIAGNOSIS; (b)(6)

No definitive cardiac cause of death identified Focal dysplasia, atrioventricular nodal artery

History: 24 year old Iraqi male: height 177 cm, weight 83 kg; civilian detainee; began having difficulty breathing and could not be resuscitated

Heart: 440 g (per contributor) (predicted normal value 324 g, upper limit 458 g for 176 cm male); closed foramen ovale; normal cardiac chamber dimensions: left ventricular cavity diameter 30 mm, left ventricular free wall thickness 14 mm, ventricular septum thickness 14 mm, right ventricular from acute angle to septum 30 mm, posterior right ventricle wall thickness 4 mm; valves grossly unremarkable; normal endocardium; no gross myocardial scarring or fibrosis; histologic sections demonstrate no inflammation, scarring, or necrosis

Conduction system: The sinoatrial node and nodal artery are unremarkable. The compact atrioventricular (AV) node and penetrating bundle demonstrate focal fragmentation without inflammation, increased fat, or proteoglycans. The proximal left bundle branch is unremarkable and the right is not seen. There are no discernible bypass tracts between the AV node and the ventricular septum. There is mild AV nodal artery dysplasia with medial and intimal thickening and focal moderate dysplasia of an AV nodal artery branch with medial thickening.

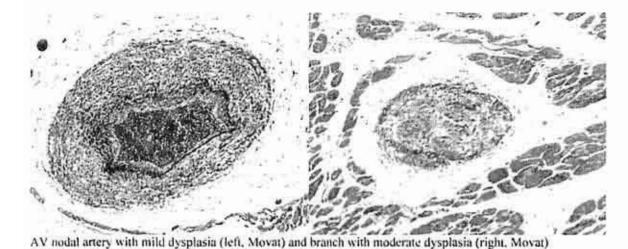
Coronary arteries: Normal ostia; right dominance; no gross atherosclerosis

Comment: Small vessel disease (AV nodal artery dysplasia) as seen in this case has been implicated in sudden death, although causality in an individual case can be difficult to ascertain. We cannot exclude coronary spasm as a cause of death, which has no histologic imprint, or an idiopathic arrhythmia related to ion channel disorder.

Department of Cardiovascular Pathology 6825 16th St., N.W., Bldg. 54, Room 2088, Washington, DC 20306-6000 (b)(6)

Page 1 of 1 MEDCOM 1011

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A copy of this report has been faxed to you a (b)(6)

Blocks made: 12 (5 myocardium, 7 conduction system)

Slides made: 12 (12 H&E. 3 Movat)

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Department of Cardiovascular Pathology

Department of Cardiovascular Pathology 6825 16th St., N.W., Bldv, 54, Room G-090, Washington, DC 20306-6000 (b)(6)

Page 2 of 2 MEDCOM 1012

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| TREE | ET ADDRESS | Domicilé à (Rue) | | | CITY OR TOWN | OR STATE | Include ZIP Code) | Ville (| Code | postal compris) |
| - A- 7 | - | | | MEDICAL STATEMEN | T Déclaration | on médicale | | _ | | |
| | | | CAUSE OF D | DEATH (Enter only one | o cause per line) use par ligne) | | | | 1 | NTERVAL BETWEEN DNSET AND DEATH Intervalle entre attaque et le décès |
| | | TON DIRECTLY LEADING firectement responsable de | la mort. | Atrioventri | cular Nodal Ar | tery Dyspla | sia | | 1 | Jnknown |
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REPLACES DA FORM 3665, 1 JAN 72 AND DA FORM 3666-R(PAS), 26 SEP 75, WHICH ARE OBSOLETE.