

2nd rough draft,
edited 6/21/68 - JEH

"Dr. Holloway with dictation on the first composite gross protocol
for case 68-5731."

re-edited 7/18/68 by TTN and JEH.
re-edited 9/20/68 by JEH.

ANATOMICAL SUMMARY

GUNSHOT WOUND NO. 1 (FATAL GUNSHOT WOUND)

ENTRY: Right mastoid region.

COURSE: Skin of right mastoid region, right mastoid, petrous
portion of right temporal bone, right temporal lobe,
right cerebellum, and brain stem.

EXIT: None.

DIRECTION: Right to left, slightly back to front upward.

BULLET RECOVERY: Fragments (see text).

GUNSHOT WOUND NO. 2, THROUGH-AND-THROUGH.

ENTRY: Right axillary region.

COURSE: Soft tissue of right axilla and right infraclavicular
region.

EXIT: Right infraclavicular region.

DIRECTION: Right to left, back to front upward.

BULLET RECOVERY: None.

GUNSHOT WOUND NO. 3.

ENTRY: Right axillary region (just below Gunshot Wound No. 2
entry).

COURSE: Soft tissue of right axilla, soft tissue of right
upper back to the level of the 6th cervical vertebra
just beneath the skin.

EXIT: None.

DIRECTION: Right to left, back to front, upward.

BULLET RECOVERY: .22 caliber bullet from the soft tissue of paracervical region at level of 6th cervical vertebra at 8:40 A.M. June 6, 1968.

GUNSHOT WOUND NO. 1:

The wound of entry, as designated by Maxwell M. Andler, Jr, M.D., Neurosurgeon attending the autopsy, and more or less evident by inspection of the apposed craniotomy incision, is centered 5 inches (12.7 cm) from the vertex, about 3/4 inch (1.9 cm) posterior to the center of the right external auditory meatus, about 3/4 inch (1.9 cm) superior to the Reid line, and 2-1/2 inches (6.4 cm) anterior to a coronal plane passing through the occipital protuberance at its scalp-covered aspect. The defect appears to have been about 3/16 inch (0.5 cm) in diameter at the skin surface. The surgical incision passing through the area of the wound of entry has been fashioned in a semilunar configuration with the concavity directed inferiorly and posteriorly. The incision has been intactly sutured by metallic and other material. The arc length is about 4 inches (10 cm).

Further detailed description of the area is given in the Neuro-pathology portion of this report.

Varyingly moderate degrees of very recent hemorrhage are noted in the soft tissue inferior to the right mastoid region, extending medially, as well. There is no hematoma in the soft tissue.

In conjunction with the wound of entry, the right external ear shows, on the posterior aspect of the helix, an irregularly fusiform zone of dark red and gray stippling about one inch (2.5 cm) in greatest dimension, along the posterior cartilaginous border and over a maximum width of about 1/4 inch (0.6 cm) at the midportion of the stippled zone. This widest zone of stippling is approximately along a radius originating from the wound of entry in the right mastoid region. Moderate edema and variable ecchymosis is present in the associated portions of right external ear as well.

GUNSHOT WOUND NO. 2:

This is a through-and-through wound of the right axillary, medial shoulder, and anterior superior chest areas, excluding the thorax proper. The wound of entry is centered 12-1/2 inches (13.6 cm) from the vertex, 9 inches (22.9 cm) to the right of midline, and

JUNE 6, 1968

3-3/4 inches (8.3 cm) from the back (anterior to a coronal plane passing through the surface of the skin at the scapula region). There is a regularly elliptical defect 3/16 x 1/8 inch over-all (about 0.5 x 0.3 cm) with thin rim of abrasion. There is no apparent charring or powder residue in the adjacent and subjacent tissue. The subcutaneous fatty tissue is hemorrhagic.

The wound path is through soft tissue, medially to the left, superiorly and somewhat anteriorly. Bony structures, major blood vessels and the brachial plexus have been spared.

The exit wound is centered 9-3/4 inches (about 24.5 cm) from the vertex and about 5 inches (about 12.5 cm) to the right of midline anteriorly in the infraclavicular region. There is a nearly circular defect slightly less than 1/4 inch x 3/16 inch overall (0.6 x 0.5 cm).

Orientation of the wounds of entry and exit is such that their major axes at the skin surfaces coincide with the central axis of a probe passed along the entirety of the wound path. No evidence of deflection of trajectory is found.

GUNSHOT WOUND NO. 3:

The wound of entry is centered 14 inches (35.6 cm) from the vertex and 8-1/2 inches (21.6 cm) to the right of midline, 2 inches (5 cm) from the back anterior to a plane passing through the skin surface overlying the scapula, and 1/2 inch (1.2 cm) posterior to the mid-axillary line. There is a nearly circular defect 3/16 inch by slightly more than 1/8 inch overall (0.5 x 0.4 cm). There is a thin marginal abrasion rim without evidence of charring or apparent residue in the adjacent skin or subjacent soft tissue. The subcutaneous fatty tissue is hemorrhagic.

The wound path is directed medially to the left, superiorly and posteriorly through soft tissue of the medial portion of the axilla and soft tissue of the upper back, terminating at a point at the level of the 6th thoracic vertebra as close as about 1/2 inch (1.2 cm) to the right of midline.

Bullet Recovery: A bullet of .22 caliber with lubaloy covering is recovered at the terminus of the wound path just described, at 8:40 A.M. June 6, 1968. There is a unilateral, transverse deformation, the contour of which is indicated on an accompanying diagram. The initials, TN, and the numbers 31 are placed on the base of the bullet for future identification. The usual Evidence envelope is prepared. The bullet, so marked and so enclosed as evidence, is given to Sergeant W. Jordan, No. 7167, Rampart Detectives, Los Angeles Police Department, at 8:49 A.M. this date for further studies.

An irregularly bordered and somewhat elliptical zone of variably mottled recent ecchymosis is present in the superior-medial axillary skin on the right, in the zones of wounds of entry No. 2 and No. 3, especially the former. The ecchymosis measures 3-1/2 x 1-1/2 inches (9 x 3.8 cm) overall with the right upper extremity extended completely upward(longitudinally).

EXAMINATION OF CLOTHING AT TIME OF AUTOPSY:

1) There is a dark blue, fine worsted-type suit coat bearing the label "Georgetown University Shop - Georgetown, D.C". The coat has been cut and/or torn at the left yoke and left sleeve area. The right sleeve is intact. There is variable blood staining over the right shoulder region and on the right lapel. Two apparent bullet holes are identified in the right axillary region, slightly over 1 inch (2.5 cm) and slightly over 1-1/4 inch (3.2 cm) from the underseam area, respectively, and corresponding with wounds described on the body elsewhere in this report. Also noted at the top of the right shoulder region, centered about 1-1/4 inches from the shoulder seam and about 5/8 inch (1.6 cm) posterior to the yoke seam superiorly is an irregular rent of the fabric, somewhat less than 1/4 inch (3.2 cm) in diameter and definitely everting superficially and upward. The 3 front buttons of the garment are intact.

Subsequent examination of the coat showed the presence of a superficial through-and-through bullet path through the upper right shoulder area, passing through the suit fabric proper, but not the lining.

2) There is a pair of trousers of matching material with a very dark brown leather belt with rectangular metal buckle and showing the gold-stamped label "Custom Leather, Reversible, 32". The zipper is intact. There is a minimal amount of apparent blood staining over the anterior portions of the trouser legs.

3) There is a white cotton shirt with the label "K WRAGGE, 48 West 46th Street, New York". The laundry mark initials "RFK" are present on the neck band. The left portion of the shirt has been disrupted in approximately the same manner as the suit coat and is similarly absent. The right cuff is intact and is of semi-French design. A chain-connected yellow metal cufflink with plain oval design is in place. A corresponding left cufflink is not among the items submitted. Apparent bullet holes are identified as corresponding to those in the previously described area of suit coat.

4) There is a tie of apparent silk rep, navy blue with an approximately 3/16 inch (0.5 cm) grey diagonal stripe. The label is "Chase and Collier, McLean, Virginia". The maker is RIVETZ.

- 5) There is a pair of navy blue, nearly calf length socks of mixed cashmere and apparently nylon fiber, the fiber content stencil labeling still being nearly discernible on the foot portions.
- 6) There is a pair of white broadcloth boxer type shorts with two labels: "Sunshen Broadcloth V'Cloth - 34; and "Custom fashioned for Lewis and Thos. Saltz, Washington". There is a small amount of blood stain at the anterior crotch, along with pale straw colored discoloration to the left of the fly. A few patches of dry blood are present on the back as well.
- 7) There is a trapezoidally folded cotton handkerchief showing, on what appears to be the presenting (anterior) surface, several scattered dark red and somewhat brown spots ranging from a fraction of a millimeter to about 4 mm (less than 3/16 inch) in greatest dimension.
- 8) No shoes are submitted for examination.

The above listed items are saved for further and more detailed study by others.

GENERAL EXTERNAL EXAMINATION:

The non-embalmed body, measuring 70-1/2 inches (179 cm) in length and weighing about 165 pounds (74.5 kg), is that of a well-developed, well-nourished and muscular Caucasian male appearing about the recorded age of 42 years. The extremities are generally symmetrical bilaterally, showing no obvious structural abnormality.

The head shows extensive bandaging, somewhat blood-stained in the posterior aspect. Dressings are also present in the right clavicular region, the right axilla, and the right ankle regions. Also present over the right inguino-femoral region are apparently elastoplast dressings. A recent tracheostomy has been performed at a comparatively low level. A clear plastic tracheostomy tube fitted with an inflatable cuff is in place. The area also shows a gauze dressing.

Lividity is well developed in the posterior aspect of the body, mainly at the upper shoulder and midback regions with approximately equal distribution bilaterally. The lividity blanches definitely on finger pressure.

Rigor mortis is not detected in the extremities or in the neck.

Rigor was noted to be developing in the arms and legs by the time of conclusion of the autopsy.

A complete examination of the external surfaces of the body is undertaken following removal of all dressings.

The head contour is generally symmetrical, due allowance being made for the soft-tissue edema and hemorrhage in the right post-auricular region in general. The hair is graying light brown and of male distribution. Calvity lines are well delineated on the scalp. Portions of the right half of the scalp have clipped and/or shaved. Hair in the inguinal and femoral regions has also been shaved in part. Hair texture is medium.

There is an irregularly bordered area of comparatively recent yet pale ecchymosis centered about one inch (2.5 cm) above the midportion of the right eyebrow. Marked ecchymosis with moderate edema is present in the right periorbital region but mainly of the upper eyelid. No abnormality is noted in the left periorbital tissue externally. No hemorrhage or generalized congestion is seen in the conjunctival or scleral membranes. The nose is symmetrical, showing no evidence of fracture or hemorrhage. The glabella shows no evidence of trauma.

Eye color is hazel. Pupillary diameters are equal at about 5 mm (3/16 in).

The buccal mucosa and the tongue show no lesion.

Chest diameters are within normal limits and there is bilateral symmetry. The breasts are those of a normal adult male. The abdomen is scaphoid. No abdominal scar is identified. There is an old low medial inguinal scar on the right.

Texture and configuration of the nails are within normal limits, and no focal lesions are noted. There is no peripheral edema.

The skin in general shows a smooth texture and no additional significant focal lesion. There is abundant sun tan, especially at the neck region where its contrast with the areas shaved for surgical preparation on the right can be noted. No evidence of powder burn, tattoo, or stippling is found in the area surrounding the wound of entry of Gunshot Wound No. 1, in an arbitrary circular zone to include the above-described stippling on the right ear, or beyond.

No structural abnormality is noted on the back.

There is a diagonally disposed recent surgical incision about 3 inches (7.5 cm) in length in the right anterolateral femoral region. This incision has been intactly sutured. There is an associated plastic tubing of small diameter, centered about 1/2 inch (12 mm) from the infero-medial margin of the incision.

Also noted in a comparable location on the left are several hypodermic puncture marks. These just-mentioned areas show the presence of red-orange dye.

There are recent outdawns at the right ankle and the lateral right knee with thin polyethylene tubes in place. No extravasation is noted.

The external genitalia are those of a normal circumcised adult male.

CAVITIES:

Primary incision is first made as far as the two upper incisions, allowing upward reflection of skin and soft tissue to afford access for carotid angiography before the head is opened. Following completion of these roentgenographic studies, the traditional Y incision is continued. The peritoneal surfaces are smooth and glistening. No free fluid is found in the abdominal cavity. There are no adhesions. Abdominal organs are in their usual relative positions.

The pleural surfaces are smooth. There is no pleural effusion.

The pericardium is intact and encloses a small amount of transparent straw-colored liquid.

CARDIOVASCULAR SYSTEM:

The heart weighs 360 gm and presents smooth epicardial surfaces. There is moderate right atrial dilatation. The contour otherwise is within normal limits. Cut surfaces of myocardium show a uniform gray-red muscle fiber texture with no focal lesion. The endocardial surfaces are smooth. About 50 ml of dark red postmortem clot is present in the chambers collectively. No cardiac anomaly is demonstrated. The thickness of the left ventricular wall is up to 1.3 cm, and that of the right 0.3 cm. Valve circumferences are: Tricuspid - 13, pulmonic - 8.5, mitral - 10.5, and aortic - 7 cm. There are no focal lesions. The coronary arterial tree arises in the usual sites and distributes normally. The coronary arteries are thin-walled and pliable, showing widely patent lumina. The aorta has a normal configuration and varies from 3.3 to 5.2 cm in circumference. The intimal surface of the aorta shows small and comparatively pale yellow atheromatous areas totaling no more than 10% of the area studied.

The lining of the inferior vena cava is smooth throughout. The distal end of the intravenous polyethylene catheter is noted at the level of the 2nd lumbar vertebra and shows no evidence of thrombosis at the tip. Free flow is also demonstrated.

Other vessels studied are not remarkable, save where special descriptions are given elsewhere in this report.

RESPIRATORY SYSTEM:

The right lung weighs 490 gm; the left, 330 gm. There is a moderate amount of wrinkling of the external surfaces, suggestive of atelectasis. Dusky discoloration is noted in the hypostatic portions bilaterally. The outer surfaces of the lungs are intrinsically smooth. Cut surfaces of the lungs disclose a few scattered areas of atelectasis, especially in the left lower lobe. There is mild edema throughout. Hypostatic congestion is noted in an estimated 30% of the total lung volume, approximately equally distributed bilaterally. In these hypostatic areas there is probably patchy hemorrhage of the matrix as well. No areas of consolidation are identified. Non-congested portions of the lungs are comparatively pale tan in color. Anthracotic pigmentation is not excessive for the age of the subject.

A small amount of slightly pink frothy mucoid material is present in the bronchial tree, but no exudate. There is no evidence of aspiration of gastric content.

The hilar lymph nodes show no abnormality.

NECK ORGANS:

The pharyngeal and laryngeal mucosa shows no focal lesion. There are a few petechial hemorrhages of the epiglottis. Intrinsic musculature and soft tissue of the larynx shows no hemorrhage or other evidence of trauma. The vocal cords do not appear edematous, nor is there evidence of generalized submucosal edema. The hyoid bone is intact.

The trachea is in midline. The plastic tracheostomy tube previously mentioned shows no obstruction of its airway and no exudates or hemorrhagic material. The mucosa lining the trachea is moderately injected at the general level of the tracheostomy, again with no obvious exudate.

The thymus shows the usual atrophy and is comparatively fatty but not otherwise remarkable.

HEPATOBIILIARY SYSTEM:

The liver weighs 1810 gm and has a smooth intact capsule. The edges are sharp. Cut surfaces of the liver show no focal lesion

in the comparatively dark brown matrix. Little blood wells up from freshly cut surfaces. A number of normal sized portal veins present themselves. There is no evidence of fibrosis. No fatty sheen is seen on the cut surfaces.

The gallbladder has a wall of average thickness and a smooth serosal surface. The organ is distended by the presence of more than 25 ml of green-black bile of intermediate viscosity. There are no calculi. The extrahepatic biliary system is patent.

HEMIC AND LYMPHATIC SYSTEM:

The 150 gm spleen is moderately firm and has a smooth intact capsule. Multiple cut surfaces of the spleen show no focal lesion in the dark gray-red matrix. The capsule shows no areas of thickening. The malpighian bodies are distinct. No accessory spleen is identified.

There is no evidence of marked departure from normal blood volume. In areas where postmortem clot is found, this is of uniformly normal degree and texture. No evidence of any hemorrhagic diathesis is noted.

The abdominal lymph nodes, mainly the para-aortic, show moderate enlargement (up to three times the normal size) but no induration or focal change. Other lymph nodes studied are not remarkable.

PANCREAS:

Configuration and size are within normal limits. Multiple cut surfaces show no evidence of an acute inflammatory change, fatty necrosis, scarring, or hemorrhage.

UROGENITAL SYSTEM:

The right kidney weighs 180 gm and has a smooth capsule which strips readily. Cut surfaces disclose normal corticomedullary ratios, with an average cortical thickness of about 6 mm, compared with 1.0 cm of the medulla. There are no focal lesions. A moderate amount of engorgement is noted.

The left kidney weighs 175 gm and has a generally smooth capsule which can be stripped readily. Also present, however, is a retention cyst about 2.5 cm in greatest dimension but showing, on subsequent study, a principal volume delineated by a space 2.0 x 1.8 x 1.5 cm. Thin watery liquid is enclosed. About 3.0 cm from one pole of the left kidney and 2.0 cm from the pelvis,

is a well-circumscribed and slightly raised subcapsular nodule having a uniform yellow matrix and measuring 1.0 x 0.9 x 0.9 cm overall. The cut surface of this yellow nodule protrudes slightly. The lesion is about 6.0 cm from the just-described retention cyst. Intervening matrix of the left kidney shows no focal change. The renal pelves of both kidneys and both ureters show no induration, dilatation, or exudates. Ureteral implantation is noted to be normal in the urinary bladder. About 8 ml of faintly amber-pink cloudy urine is contained. There is no focal lesion of the urothelial lining. There are no urinary calculi.

The prostate is symmetrical with a transverse diameter of 3.5 cm. Cut surfaces show no distinct nodular areas and no focal lesion. There are scattered areas of vascular engorgement near the origin of the prostatic urethra. A slightly gritty texture is found on the cut surfaces of the prostate. Scattered discrete calculi up to 2 mm in diameter are found.

The seminal vesicles are of normal configuration and contain a small amount of green-gray mucoid material.

Both testes are present in the scrotal sac and are of normal size and consistence. Tubular stringing is readily accomplished. No evidence of hydrocele is present.

DIGESTIVE SYSTEM:

The esophagus is lined by smooth pale-gray epithelium following the usual longitudinal folds. No focal lesion is found. The stomach has a wall of average thickness and a smooth serosal surface. There is mild gaseous dilatation. No evidence of hemorrhage or ulceration is found in the gastric mucosa. Within the lumen is about 500 ml of cloudy gray watery mucoid material in which no discrete food fragments are found. A small amount of hemorrhagic material is inadvertently admitted into the gastric content as the latter is secured for possible toxicological studies. The duodenum, small intestine, and colon show no gross abnormalities of mucosal or serosal elements. The mesenteric lymph nodes are not remarkable.

ENDOCRINE ORGANS:

The pituitary is intrinsically symmetrical and within the normal limits of size, as is the sella turcica.

The thyroid is symmetrical and not enlarged; cut surfaces of the brown-red colloid matrix shows no focal change.

The adrenals total 13.5 gm and are of normal configuration. Multiple cut surfaces show no focal lesion. The thickness of the cortex is little more than one millimeter. The medullary tissue is not remarkable.

MUSCULOSKELETAL SYSTEM:

The bony framework is well developed and well retained. No evidence of a diffuse osseous lesion is found. The fracture of the right orbital plate and of other components of the base of the skull are described in detail elsewhere in this report, mainly the Neuropathology section. No additional evidence of recent fracture or other focal trauma is demonstrated in the skeleton.

The clinically described and radiologically documented old fractures are not dissected.

The vertebral marrow is a uniform brown-red, showing no focal change.

Cut surfaces of muscles studied, in areas apart from the trauma, show no abnormality.

HEAD AND NERVOUS SYSTEM:

Additional features revealed by reflection of the scalp include a fairly well demarcated area of non-recent hemorrhagic discoloration, about 1.5 cm in greatest dimension, in the left parietal-occipital region. No associated galeal hemorrhage is demonstrated.

A complete description of the brain in situ and following removal, before and after fixation, will be found elsewhere in this report.

The cerebrospinal fluid is blood tinged.

Abundant and freshly clotted but drying blood is found at the right external auditory canal, extending outward to the lateral interstices of the external ear. No evidence of hemorrhage is found at the left ear.

The spinal cord is taken for further evaluation by the Neuropathologist. At time of removal of the cord, a small amount of cervical epidural hemorrhage is noted. There is no evidence, on preliminary inspection, of avulsion of roots leading to the right brachial plexus.

Those portions of peripheral nervous system exposed by the extent of dissection indicated above in general show no abnormality.

SPECIMENS SUBMITTED:

Organs and body fluids enumerated elsewhere in this report, for the purpose of toxicological examinations.

Tissue sections for microscopic examination as denoted in other portions of this report.

Other specimens for special studies as described in accompanying reports.

COMPLETION OF AUTOPSY:

The above-described dissections, postmortem radiographic studies, the autopsy photographs, and the placing of retained specimens in suitably labeled containers, were all completed by 9:15 A.M., this date. The body was then released to the embalmers who had arrived to perform their functions.

THOMAS T. NOGUCHI, M.D.
CHIEF MEDICAL EXAMINER-CORONER

JOHN E. HOLLOWAY, M.D.
DEPUTY MEDICAL EXAMINER

ABRAHAM T. LU, M.D.
DEPUTY MEDICAL EXAMINER

JEH::AMJ::C
9/25/68