**UNIVERSITY OF NAIROBI – SCHOOL OF MEDICINE**

**DEPARTMENT OF HUMAN PATHOLOGY**

**FORENSIC AUTOPSY REPORT**

**BIODATA**

Name:- Gladys Wanjiku Maina

Age:- 37

Sex:- Female

Date of Death:- 26.01.2021

Time of Death:- Unknown

Place of Death:- KNH Ward 4C

Date of autopsy:- 29.01.2021

Time of autopsy:- 11:45am

Autopsy performed at:- KNH Farewell Home

Autopsy reference number:- A/0102/21

Type of autopsy:- Forensic

Pathologist in charge:- Dr. Husein

**CLINICAL SUMMARY**

The deceased who was aged 37 years was involved in a road traffic accident along Kangari/Muranga Road. She was a passanger. She was rushed to Maragua Hospital after which she was referred to Murang’a Hospital and then to KNH. She died while at Ward 4C.

**IDENTIFICATION**

Prior to autopsy, the deceased was identified by her father Fredrick Maina and her brother in law Kennedy Mwangi Kimani.

**EXTERNAL EXAMINATION**

The decedent (length, 162 cm; weight, unknown) is a well-developed, well-nourished, phenotypically African female appearing about the same age as the recorded age of 37. The unembalmed, unclothed body is identified by a tag attached to the left great toe (00830). There is moderate rigor mortis present in the jaws, neck, back, and extremities. A violaceous posterior lividity pattern is present. The body is cold. The decedent is normocephalic and without apparent trauma about the face or scalp. The scalp hair is black and 2 cm in average length. The bones of the forehead, nose, cheeks, and jaw are intact to palpation. The irides color is not known, and the pupils are equal and round (unknown measurements) bilaterally. The conjunctivae are pink, and the sclerae are clear. The ears are well-formed and symmetrical, and the external auditor canals are without discharge. The nose is well-formed and symmetrical. The external nares are patent and without haemorrhage or discharge. The lips are intact. The mouth contains a small amount of seromucous secretion and no obstructing materials or lesions. The native teeth are present and in good repair. The buccal mucosa is pink and shows no signs of trauma. The neck is symmetrical. There is no palpable crepitus or hypermobility. The trachea is palpably straight and in the midline. The chest is symmetrical and without palpable crepitus or bony deformity. The breasts are soft without palpable masses, skin retraction, or nipple discharge. The abdomen appears flat and soft without palpable evidence of organomegaly or external trauma. Pubic hair is present in the usual female distribution. The external genitalia are unremarkable and atraumatic. There is no palpable cervical, axillary, or inguinal lymphadenopathy/other. The upper extremities are symmetrical and well developed. The fingernails are thin and have nailpolish. The nail beds show no cyanosis. There is no clubbing. The lower extremities are symmetrical and well muscled. There is no pedal edema. The toenails are normal and have nailpolish. The soles of the feet are soft. The posterior trunk shows a symmetrical external contour. The spine appears straight. The anus is closed and atraumatic. The skin color is brown. The skin shows no irregularity/poor turgor and no elasticity/eruptions/rashes/other.

**SCARS AND IDENTIFYING MARKS**

None

**EVIDENCE OF THERAPEUTIC INTERVENTION**

The following medical paraphernalia are in place: bandage on right calf (laterally).

**EVIDENCE OF EXTERNAL TRAUMA**

A healing abrasion 2x1cm on the right supraorbital region. A healing abrasion 3x4cm lateral to the right orbit. A healing abrasion 2x1cm behind the left ear. An abrasion 1x0.5cm on the left jaw. An abrasion 4x2cm below the right breast. Complex abrasions 4x6cm on the posterior aspect of the right hand. 3cm sutured laceration on the right hand 4th finger. Complex lacerations 11.5x9cm on right leg, above the ankle.

**INTERNAL EXAMINATION**

**PRIMARY INCISION, NECK, AND BODY CAVITIES**

A standard Y-shaped thoracoabdominal incision reveals a subcutaneous fat thickness of 3 cm at the midabdominal level. There is no evidence of hemorrhage in the anterior muscles and soft tissues of the neck. The carotid sheaths are intact. The anterior cervical spine is palpably unremarkable. No obstructive material or lesions are present in the glottis or larynx. The hyoid bone and laryngeal cartilage are normally formed and intact without evidence of fractures or hemorrhage. The breast tissue consists of a small amount of white stroma within yellow fat. The sternum and ribs of the anterior chest are intact. There is a post sternal bruising which is about 2cm and resembles a thrombus. The mediastinum is midline. The pericardial sac contains 30mL of serous fluid; its surfaces are glistening and smooth. The parietal pleural surfaces are glistening and smooth except for a few easily lysed apical fibrous adhesions. There is no pleural fluid. There are no pneumothoraces. The domes of the diaphragm are at the fifth rib bilaterally. Omental and mesenteric fat is abundant. The peritoneal surfaces are glistening and smooth; there are no unusual fluid collections in the abdominal space, and the organs occupy their usual positions.

**CARDIOVASCULAR SYSTEM**

The **heart** (285g) is normally formed and located in its usual position in the left chest, with its apex pointing to the left. There is a minimal amount of epicardial fat. The epicardial surface is glistening and smooth. The atrial chambers are not dilated. The interatrial septum is intact. The atrioventricular connections are present, and the leaflets of the atrioventricular valves are thin and delicate. The chordae tendineae are thin. The interventricular septum is intact. The myocardium is firm and red-brown. The right and left ventricular free walls measure 4mm and 13mm, respectively. The outflow tracts are widely patent, and the semilunar valves each contain three thin and delicate. The pulmonary artery is of appropriate caliber and configuration; its intimal surface is glistening and intact. The coronary arteries course over the surface of the heart in the usual fashion. There is left dominant coronary artery circulation. The coronary arteries are patent and free of atherosclerosis.

The ascending **aorta** is of the usual caliber and arches left before descending along the left side of the vertebral column. The major arteries arise from the aortic arch and descending aorta in the usual configuration and are patent. The intimal surface of the aorta is smooth. The venae cavae and other major veins are patent and thin walled.

**RESPIRATORY SYSTEM**

The **trachea** is of normal caliber and courses in the usual fashion.

The **lungs** (right, 850g; left, 600g) contain the usual lobes and fissures. The lungs do not collapse. The visceral pleural surfaces are slightly opaque with a normal amount of anthracotic pigment. The parenchyma is soft and pale red. Air spaces are not enlarged. Respiratory mucosa is smooth and pale, and the lumen contains a small amount of clear mucus. The vessels are patent.

**GASTROINTESTINAL SYSTEM**

The **oesophagus** courses in the usual fashion to enter the stomach; its mucosal surface is white and intact. The squamocolumnar junction is normal.

The **stomach** is empty and does not contain residuals of medication/other. An ethanol-like odor is not apparent. Gastric mucosa is intact with tall rugal folds. The wall is pliable. The pylorus is contracted.

The **small intestine** is of the usual caliber, and its walls are pliable.

The **cecum** is freely mobile in the right lower quadrant.

The **appendix** is retrocecal and not inflamed.

The **colon** contains greenish loose stool and is of generous caliber. No focal mass lesions are identified throughout the gastrointestinal tract/other.

**HEPATOBILIARY SYSTEM**

The **liver** (1170g) has a blunt anterior margin; its surface is intact, smooth and glistening. The parenchyma is red-brown and firm with the usual lobular pattern. Intrahepatic bile ducts and vessels are patent.

The **gallbladder** is present and distended and contains approximately 50mL of viscid dark green bile. The wall is thin and pliable with reticulated intact mucosa. The common bile duct is patent into the duodenum.

**PANCREAS**

The **pancreas** (85g) is gray and located in its usual position within the duodenal sweep. Its parenchyma has a normal architecture with minimal fat in the tail. The pancreatic ducts are of the usual caliber.

**URINARY SYSTEM**

The **kidneys** (right, 75g; left, 100g) are located in their usual retroperitoneal position and have capsules that strip with the usual ease to reveal smooth surfaces. The parenchyma is red-brown with clearly demarcated corticomedullary junctions. A minimal amount of peripelvic fat is present. The collecting systems are not dilated. The pelves and ureter are patent and not dilated. Their mucosa is smooth.

The **urinary bladder** contains 15mL of clear urine. The bladder mucosa is intact.

**REPRODUCTIVE SYSTEM (FEMALE)**

The **uterus, tubes, and ovaries** are in their usual positions within the pelvis and appear appropriate for age. The cervical os is round.

The endometrial cavity

(1-1.5cm) and has an IUD. The endometrium is pale and measures 2mm in thickness.

The fallopian tubes are narrow and without adhesions.

The ovaries (unknown weight and size) are gray and smooth with firm gray parenchyma containing a few scattered cortical corpora lutea and albicantia/homogeneous parenchyma/other.

**LYMPHORETICULAR SYSTEM**

The **thymic tissue** is ill defined; its parenchyma largely replaced by fat.

The **spleen** (130g) has a smooth, intact capsule. Splenic parenchyma is dark red. The follicles are small, and trabeculae are delicate. There is no lymphadenopathy.

The **mediastinal lymph** nodes are soft and black.

Other **lymph nodes** are small and gray. Rib and vertebral marrow is red, moist, and ample.

**ENDOCRINE SYSTEM**

The **pituitary** fills the sella turcica.

The **thyroid gland** is symmetrical, red-brown, and firm.

The **adrenal glands** have uniform yellow cortices/other separated from the medullary gray/other by a thin, red line.

**MUSCULOSKELETAL SYSTEM**

**Cartilage** is firm. The **bone** is hard. The vertebrae, ribs, pelvis, and long bones are intact without gross evidence of fracture or deformity. **Skeletal muscles** are red-brown, firm and appropriate mass for the decedent’s age and sex.

**HEAD AND CENTRAL NERVOUS SYSTEM**

Reflection of the **scalp** reveals evidence of subgaleal haemorrhage (occipital 10x10cm; frontal 2x2cm). The underlying **calvarium** is intact and normal in thickness. The **dura** is intact and its inner surface smooth and glistening. The dural sinuses are patent. Cerebrospinal fluid is clear. There is a subarachnoid haemorrhage in the occipital region in the right hemisphere extending to the parietal region.

The **brain** weighs 1345g. The leptomeninges are thin and transparent with no vascular congestion, or exudate; there is an occipital subarachnoid haemorrhage, on the right hemisphere that extends to the parietal region. The circle of Willis and other basal vasculature are intact and normally formed. The vessels are patent and thin walled. The cranial nerves are intact and normally distributed. The dorsal convexities of the brain are symmetrical with a well-developed gyral pattern. The brainstem and cerebellum show the usual external configuration. There is no localized external softening or contusion of the brain. There is no displacement of the cingulate gyrus, medial temporal lobe, or cerebellar tonsils.

**OTHER INVESTIGATIONS**

None

**SUMMARY**

The deceased, a 37 year old African female was involved in a road traffic accident and suffered a right hemisphere occipital subarachnoid haemorrhage which extended into the parietal region. She died as a result of subarachnoid haemorrhage.

**CAUSE OF DEATH *(Reference WHO ICD 11)***

1. Immediate cause of death
2. Subarachnoid haemorrhage (WHO ICD 11 code NA07.7) due to
3. Traumatic brain injury (WHO ICD 11 code NA07) due to
4. Road traffic accident (WHO ICD 11 code PF44)

**MANNER OF DEATH**

Unnatural (Accidental)

**DISCUSSION**

**JUSTIFICATION OF MANNER OF DEATH**

This was an unnatural death because it occurred as a result of external cause and was accidental because of the unintentional injury the deceased suffered due to the road traffic accident.

**CLINICAL PATHOLOGICAL CORRELATION**

Subarachnoid haemorrhage refers to accumulation of blood in the subarachnoid space, which lies between the pia and arachnoid mater. It can be categorized into traumatic and atraumatic. Traumatic is the most common cause of SAH. Atraumatic is as a result of a ruptured cerebral aneurysm or an atriovenous malformation.

Patients present with headache, dizziness, orbital pain, diplopia, visual loss, sensory or motor disturbance, seizures, ptosis, bruits, dysphasia, nausea/vomiting, photophobia and/or sudden loss of consciousness.

Physical examination findings include BP elevation, temperature elevation, tachycardia, papilledema, retinal haemorrhage and global or focal neurologic abnormalities.

Complications include hydrocephalus, rebleeding, vasospasm, seizures and cardiac dysfunction.

Diagnosis of SAH usually depends on a high index of clinical suspicion combined with radiologic confirmation via urgent non contrast CT, followed by lumbar puncture or CT angiography of the brain. After the diagnosis is established, further imaging should be performed to characterize the source of the haemorrhage.

**PREVENTION**

Ways to prevent a road traffic accident:

1. Avoid over speeding and follow speed limits
2. Avoid driving under the influence of alcohol and substances
3. Roads should be in good condition
4. There should be proper road signs
5. There should be road lightings
6. Perform engine maintenance regularly
7. Do not tailgate

Ways to prevent injury when involved in a road traffic accident:

1. Wear a seatbelt

**BIBLIOGRAPHY**

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3. <https://rotaryserviceblog.org/2019/04/17/help-prevent-road-traffic-accidents/>

