

Forensic pathology analysis of the death of Abdirahman Abdi

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Cause of death

1(a) Hypoxic brain damage

- *Due to*

1 (b) Cardio-respiratory arrest

- *Due to*

1 (c) Coronary artery atheroma

2 Struggle, physical exertion and facial injuries

Outline

- History and circumstances
- External examination
- Internal examination
- Laboratory testing
- Opinion (cause of death)

History and circumstances

- July 24, 2016 at ~9:35am – timeline starts
- July 24, 2016 at ~9:57am– timeline ends
- **What happened in the ~22 minutes (i.e. between ~9:35-9:57am) ?**
 - Phase 1 (~9:35am - 9:46am): Physical interactions with citizens and physical interactions with police and pursuit
 - Phase 2 (~9:46am - 9:48am): Physical interactions with police and arrest
 - Phase 3 (~9:48am – 9:57am): Post-arrest and found in cardiac arrest and without vital signs

History and circumstances [Continued]

- July 24, 2016 at ~9:57am - July 25, 2016 at 3:17pm: subsequent events (CPR by officers, paramedics and hospital staff; return of spontaneous circulation at hospital; treatment in hospital)
- July 25, 2016 at 3:17pm: death pronounced in hospital

External examination

- No directly life-threatening injuries
- Injury and bruising of the scalp and face
- Other minor injuries

Internal examination

- Bruising underneath the scalp and skin of face
- Comminuted nasal bone fracture
- Hypoxic ischemic encephalopathy
- 80% stenosis (blockage) of the left anterior descending coronary artery

Laboratory testing

- No drugs
- No alcohol

Opinion & cause of death

- To determine the cause of death we must integrate the history and the autopsy findings
- Main questions:
 - Did the physical interactions and exertion contribute to death?
 - How did the physical interactions and exertion contribute to death?
 - What elements are causally relevant for death?
- Need to break down the history into three phases along the timeline and correlate with the autopsy findings

Phase 1: Physical interactions with citizens and physical interactions with police and pursuit (~9:35am - 9:46am)

- Physical interactions between Mr. Abdi and citizens in and outside the coffee shop, including:
 - A person (“Person 1”) shoved Mr. Abdi in the shoulder [ASF, para 14]
 - Mr. Abdi got on top of and grabbed at / touched the breast and shoulder of a person (“Person 2”) sitting on a bench [ASF, para 15]
 - A person (“Person 3”) put Mr. Abdi in a headlock for approximately ten seconds. At first, Person 3 was on top of Mr. Abdi. Eventually, Mr. Abdi rolled around and got on top of Person 3. [ASF, paras 16-17]
 - Another person (“Person 4”) pulled at Mr. Abdi’s right bicep, then put his arm around Mr. Abdi’s neck and pulled as hard as he could for less than 10 seconds. They stumbled and fell backwards from the momentum. As Mr. Abdi fell, the front left side of his head hit the cushioned part of a chair and bounced three to four inches. He landed on his buttocks in a seated position and got up. [ASF, para 18]
 - Mr. Abdi swung his arms at two people, but did not make contact [ASF, paras 14, 10]
 - A group of three people led Mr. Abdi out of the coffee shop, pushing him along the way [ASF, para 19]
 - Mr. Abdi grabbed/ hugged a person (“Person 5”) standing by a bike rack from behind, thrusting his hips several times. Person 5 pushed him in the chest twice. Person 4, who had previously engaged with Mr. Abdi inside the coffee shop, observed this interaction and ran towards Mr. Abdi. [ASF, para 23]
 - Person 4 pushed Mr. Abdi in the chest, causing Mr. Abdi to stumble backwards a few feet [ASF, para 24]₁₀

Phase 1: Physical interactions with citizens and physical interactions with police and pursuit (~9:35am - 9:46am)[continued]

- Physical interactions with Officer 1 outside the coffee shop and during the pursuit to the apartment, including:
 - Officer 1 pushed Mr. Abdi from behind, causing Mr. Abdi to fall and land on his buttocks and back [ASF, para 32]
 - Officer 1 pepper sprays Mr. Abdi twice directly in the eyes (ineffectual) [ASF, para 34]
 - Officer 1 strikes Mr. Abdi twice with a baton in the exterior of his right thigh (ineffectual) [ASF, para 35]
 - Mr. Abdi is running, stumbling, attempting to pull objects in Officer 1's path, attempting to lift two signs fixated to the ground and carrying a heavy object [ASF, paras 32-34]

Phase 2: Physical interactions with police and arrest (~9:46 am - 9:48am)

- Subsequent physical interactions between Mr. Abdi and the two officers outside the apartment [CCTV Video]
- Officer 2 hit Mr. Abdi a number of times in the head while Mr. Abdi was still standing [CCTV Video]
- Once Mr. Abdi was taken to the ground and lying in prone position, Officer 2 hit Mr. Abdi a number of times in the head [CCTV Video]
- Officer 2 was wearing gloves bearing hard plastic knuckle coverings during his interaction with Mr. Abdi [ASF, para 38]
- At approximately 9:48 a.m., Mr. Abdi was handcuffed while lying on the ground in prone position [ASF, para 40 and CCTV Video]

Phase 3: Post-arrest and found in cardiac arrest and without vital signs (~9:48am – 9:57am)

- At ~ 9:48 a.m., Officer 1 contacted dispatch requesting paramedics for a subject that had been pepper sprayed [ASF, para 40]
- Officers 1 and 2 moved Mr. Abdi into “recovery position” [ASF, para 41]
- Officer 1 observed that Mr. Abdi was bleeding from his nose and sputtering [ASF, para 41]
- Officer 1 lifted Mr. Abdi’s head from the ground and applied the pressure bandage to Mr. Abdi’s face [Cell Phone Video]
- Mr. Abdi’s body became relaxed [Testimony]
- At ~9:50 a.m., Officer 2 contacted dispatch requesting that paramedics “up the priority” as the subject was unconscious [ASF, para 42]
- Both officers stated that Mr. Abdi continued to breathe as they waited for paramedics to arrive at the scene [Testimony]
- Paramedics arrived at ~ 9:56am. At ~ 9:57am, a paramedic checked Mr. Abdi’s pulse and determined that he was VSA and in cardiac arrest. [ASF, para 43]

Subsequent Events

- July 24, 2016:
 - ~9:57 – 10:21am: CPR by officers and paramedics, continued by paramedics during transport to hospital
 - ~10:21am: arrival at hospital; CPR continued by Emergency Department medical staff
 - ~10:54am: return of spontaneous circulation (ROSC)
- July 25, 2016 at 3:17 pm: death pronounced in hospital

What happened in the ~22 minutes?

Events

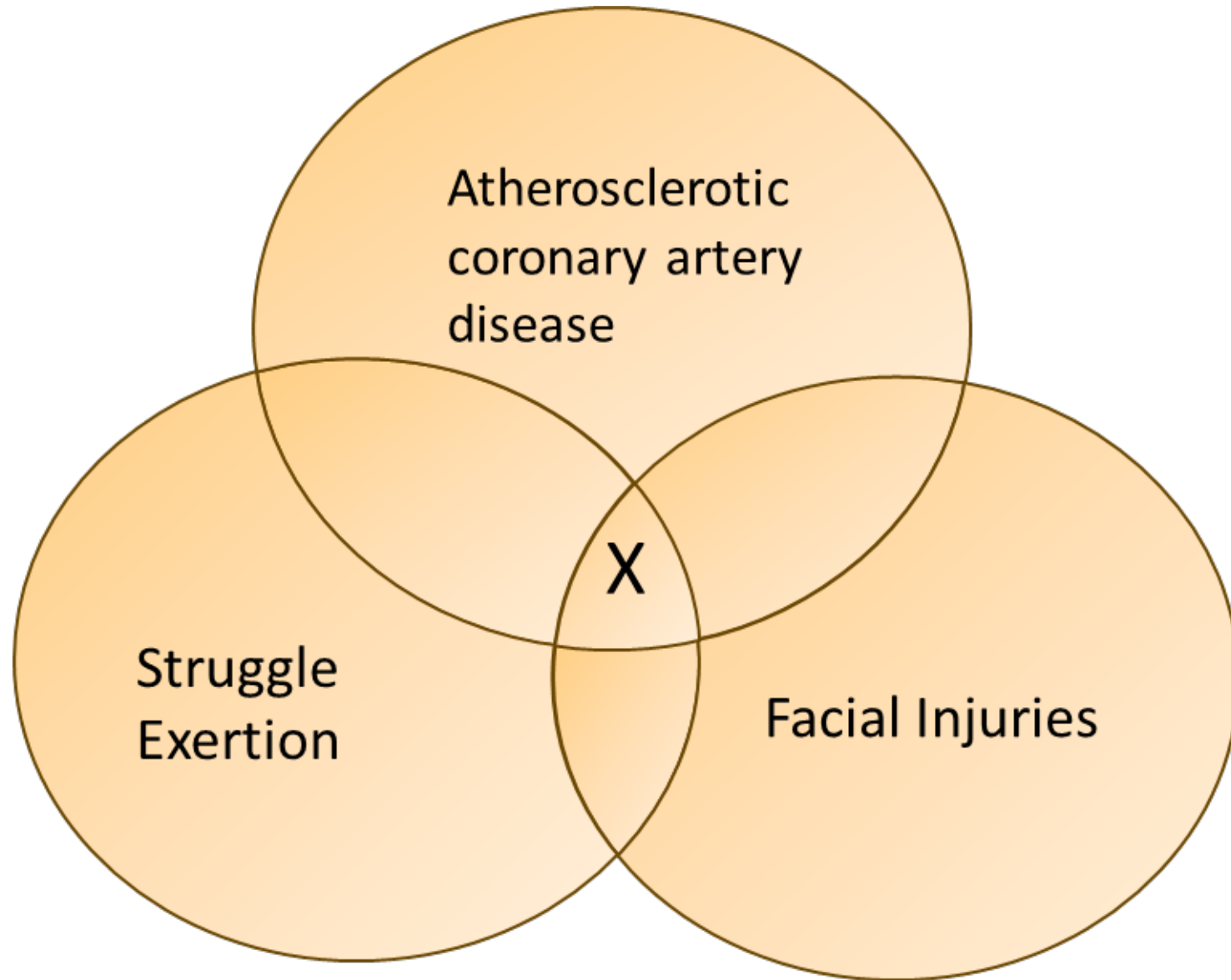
- Struggle
- Exertion
 - Emotional/psychological
 - Physical
- Facial injuries
 - Impacts of face
 - Comminuted nasal bone fracture

Atherosclerotic coronary artery disease

- Supply-demand mismatch
- Increase cardiac demand for oxygen could not be delivered due to the underlying disease of the arteries which supply oxygenated blood to the heart muscle
- Heart stops beating due to this imbalance (myocardial ischemia)

Key questions

- Did the physical interactions and exertion contribute to death?
 - Yes.
- How did the physical interactions and exertion contribute to death?
 - Created the basis for a supply-demand mismatch of blood flow to the heart muscle (myocardial ischemia) due to underlying disease in the coronary artery
- What elements are causally relevant for death?
 - All elements in phase 1, 2 and 3 likely contributed to increasing the stress on the heart over the ~22-minute interval and therefore need to be included in the cause of death statement



Sequence of events

1. Struggle + physical exertion + facial injuries
2. Underlying atherosclerotic coronary artery disease (coronary artery atheroma)
3. Mismatch leading to myocardial ischemia
4. Heart stops (...starving brain of oxygen) (cardio-respiratory arrest)
5. Resuscitation to re-establish circulation
6. Hospitalization
7. Brain irreversibly damaged in #4 (hypoxic brain damage)
8. Death in hospital

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