



G30 Dissecting Thoracic Aortic Hematoma Masquerading as Blunt Force Injury of the Neck

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After attending this presentation, attendees will be able to discuss the pertinent autopsy findings in cases of cervical compression, describe the pathogenesis of aortic dissection, and elucidate the autopsy findings of aortic dissection which may mimic blunt force injury of the neck.

This presentation will impact the forensic science community by: (1) examining a case in which a natural disease entity masquerades as blunt force injury externally; and, (2) highlighting the importance of having an appropriate index of suspicion when triaging jurisdictional cases for external examination or complete autopsy in order to accurately determine cause and manner of death.

Discoloration of the skin of the anterior and lateral neck may raise suspicion for blunt force injury, particularly cervical compression, especially in the presence of other identifiable injuries in an unwitnessed death. This case presentation will highlight external examination findings in such a situation and correlate them with internal examination findings from autopsy.

A 91-year-old White woman was discovered deceased inside her secure apartment with no significant past medical history and no known next-of-kin. She was last seen alive the day prior by her landlord, who entered with his key the next day and called for emergency services upon finding her on the kitchen floor in a cluttered and unclean apartment. She was clothed in a nightgown and was wearing a necklace and several bracelets. Rigor mortis was weak, and she demonstrated blanching lividity and body warmth was absent. No prescription medications, illicit drugs, or alcohol were found at the scene. With her advanced age, and with the scene investigation suggesting no foul play or trauma, the reviewing pathologist ordered an external examination of the body.

External examination revealed a thin, elderly woman. A band of blue/green skin discoloration spanning from the left neck across the anterior neck and ending beneath the right jaw was identified at initial exam, findings indicating possible cervical compression. Additionally, there were scattered contusions and abrasions on the face, scalp, and extremities. It was decided that an autopsy would be best to determine the etiology(ies) of the cutaneous findings.

Cases of cervical compression will often exhibit intramuscular contusions of the anterior neck muscles. Accompanying features may include cutaneous abrasions and/or contusions of the neck, conjunctival petechiae, and fractures of the hyoid bone or thyroid/cricoid cartilage. With the exception of the blue/green skin discoloration of the neck, none of these were identified in the present case.

Internal examination revealed cardiomegaly with marked atherosclerotic cardiovascular disease and spontaneous rupture of a dissecting thoracic aortic hematoma with tracking of blood along fascial planes of the anterior neck. With the advanced age of the decedent and the thin nature of elderly skin, the blue/green skin discoloration of the neck noted on external examination was attributed to the underlying diffuse extravascular extravasation of blood. Additionally, the abdominal aorta demonstrated an intact infrarenal aortic aneurysm with marked stenosis due to a 4cm mural thrombus. Internal examination also identified a recent fracture of left anterior-lateral rib 4 and ruled out any lethal injuries. Toxicology testing was negative.

Spontaneous rupture of a dissecting thoracic aortic hematoma occurs most commonly in the setting of atherosclerosis and hypertension. When a dissecting extravascular hematoma of the thoracic aorta ruptures, blood generally accumulates in the mediastinum or chest cavities. The present case illustrates atypical extension of blood into the soft tissues of the neck, mimicking contusion of the anterior neck on external examination.

This case illustrates a natural disease entity masquerading as blunt force injury externally and emphasizes the importance of having an appropriate index of suspicion when triaging jurisdictional cases for external examination or complete autopsy in order to accurately determine cause and manner of death.

Aortic Dissection, Cervical Compression, Autopsy