G11 Liver Laceration as a Result of Resuscitation in an Adult Man

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After attending this presentation, attendees will understand some of the more obscure complications of resuscitation in adults, in order to identify them at autopsy. This case is presented as an example of an injury that may be mistakenly interpreted as one that caused or contributed to death.

This presentation will impact the forensic community and/or humanity by differentiating injuries as the result of trauma and as the result of postmortem (or perimortem) resuscitation and reasons for their formation.

A 41-year-old male police officer on a nighttime training exercise collapsed suddenly. His fellow police officers immediately began CPR. His past medical history included controlled hypercholesterolemia, and complaints of left arm tingling the week prior to his death.

At autopsy, abrasions were on the center of the chest with fractures of the right fourth and fifth ribs at the sternum and the right fifth rib laterally. An 8.0 centimeter laceration was at the falciform ligament. Approximately 750 milliliters of unclotted blood was in the abdominal cavity.

Although the total cardiac weight (380 grams) was normal for his height and weight, the left ventricle measured 2.0 centimeters and the septum thickness ranged from 2.0 centimeters to 1.1 centimeters. Histologically the heart showed focal cytomyolysis and fibrosis adjacent to the bundle of His. Occasional parenchymal vessels had medial hypertrophy with narrowing of their lumens. Toxicology studies were negative. There was no evidence of head injury.

Liver lacerations are an uncommon, but recognized, complication in resuscitation in children. Liver lacerations as a complication of resuscitation in adults have been rarely reported, and are usually seen in patients receiving thrombolytic or anticoagulant therapy (1, 2). Other uncommon complications of resuscitation include tracheal rupture (3), lung herniation (4), heart rupture (5, 6) and gastric rupture (7,8). Other more common complications of resuscitation in adult include broken ribs, along with heart and splenic lacerations.

Proposed mechanisms of this injury include disparate size between rescuer and victim, and over-enthusiastic or incorrect placement of chest compressions.

Resuscitation, Complication, Laceration

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