



H115 A Rare Autopsy Case of Inferior Mesenteric Artery Laceration Associated With Blunt Abdominal Trauma in a Physically Abused Child

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Learning Overview: The goal of this presentation is for medical examiners to consider mesenteric artery laceration in addition to liver damage and intestinal rupture in cases of blunt abdominal trauma in physically abused children.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by highlighting that diverse injuries may develop as a result of blunt abdominal trauma in physically abused children.

There have been few reports of pediatric death caused by blunt abdominal trauma associated with physical abuse—and of those reported cases, the details are often unclear. This presentation will review an autopsy case of hemorrhagic shock due to inferior mesenteric artery lacerations associated with blunt abdominal trauma in a physically abused child. Moreover, the findings of the current presented case will be compared to other reported autopsy cases of blunt abdominal trauma in children.

The patient was a 3-year-old boy with a height and weight of 93cm and 14.3kg, respectively. Subcutaneous bleeding, abrasions, and small scars were observed throughout the body. There was no obvious damage observed on the skin surface in the middle abdomen; however, there was minor bleeding in subcutaneous adipose tissue, and a 6cm × 5cm × 0.5cm focus of hemorrhage within the rectus abdominis muscle was noted. In the abdominal cavity, 450ml of coagulated blood was collected. There were lacerations in the transverse mesocolon and a crush injury measuring 8cm × 9cm × 0.5cm in the mesentery of the small intestine. The inferior mesenteric artery was completely ruptured at 0.5cm from the aortic root. The transverse colon was necrotic, and there was bleeding into the mucosal membranes. Histopathologic examination revealed necrosis, neutrophilic infiltration, and hemorrhage. All organs were hypoglycemic, and the cause of death was certified as hemorrhagic shock due to laceration of the inferior mesenteric artery. Because there was no visible damage on the surface of the middle abdominal skin, strong and/or blunt abdominal trauma by a heel or similar object was suspected as the mode of injury. Based on the visual observations and histopathologic findings in the transverse colon, the subject was determined to have received the injury 3-6 hours prior to the autopsy.

In children sustaining abdominal blunt trauma, injury to organs and bowels is the main concern; moreover, vascular injury should be considered during autopsy. However, in the case of death of physically abused children, visible injury may not be found on the abdominal surface; thus, several modalities, including imaging and biochemical evaluations, should be performed during autopsy to elucidate the cause of death and pathology.

Blunt Abdominal Trauma, Child Abuse, Vascular Injury