H22 Thoracic Injuries Due to Cardiopulmonary Resuscitation in an Infant: A Case Report

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After attending this presentation, attendees will have an increased awareness of the potential pitfalls involving resuscitation artifacts in infants and how to differentiate these injuries from trauma inflicted prior to resuscitation.

This presentation will impact the forensic science community by presenting a case of Cardiopulmonary Resuscitation (CPR) injuries in an infant. These injuries, such as rib fractures and visceral trauma, are rare findings at postmortem examination. Nevertheless, it is critical that these injuries be recognized and differentiated from trauma caused by fatal child abuse prior to resuscitation attempts.

A case of a 4-month-old infant who died suddenly and underwent prolonged CPR is reported. He was born at full term via caesarean section with no prenatal or perinatal complications. There was no history of child protective services involvement or domestic violence. The child was found at night in his crib, unresponsive and in the supine position over blankets and a shawl. He had no vital signs upon arrival by the paramedics, who immediately administered full resuscitation measures. At autopsy, there were no external signs of recent trauma. There were minimally hemorrhagic left lateral rib fractures involving ribs 2-6, with extra-osseous displacement of bone marrow and crush artifact. There was extensive subpleural hemorrhage of the lungs with a resultant left hemothorax. No other injuries were found, no disease process was evident, and no congenital anomalies were identified. Toxicological, microbiological, and biochemical studies were non-contributory. A full neuropathological examination by a neuropathologist showed no significant findings. The cause of death was undetermined.

Based on a clinicopathologic correlation, the thoracic injuries were best attributed to the prolonged CPR, rather than injuries that occurred prior to death. These resuscitation artifacts are well-documented and are commonly seen at the adult autopsy in cases when CPR was administered. These artifacts have been thought to be an unusual finding in infancy; however, emerging data has shown that CPR-related rib fractures can occur in children.[1-3] This case underscores the emerging data that indicates rib fractures and other injuries can occur in collapsed infants who are subjected to CPR.

References:

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Resuscitation Injury, Infant, Child Abuse