

A comparison of pulmonary intra-alveolar hemorrhage in cases of sudden infant death due to SIDS in a safe sleep environment or to suffocation.

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The differentiation of SIDS from accidental or inflicted suffocation may be impossible without corroborating findings from the death scene or autopsy or in the absence of a confession from a perpetrator. Pulmonary intra-alveolar hemorrhage (PH) has been proposed as a potential clue to suffocation, but none of the previous studies on this topic have limited SIDS cases to those who were in a safe sleep environment, in which all were found supine and alone on a firm surface with their heads uncovered. Our aims are to: (1) compare PH in SIDS cases found in a safe sleep environment to a control group comprised of infants whose deaths were attributed to accidental or inflicted suffocation and (2) assess the effect of age, CPR, and postmortem interval (PMI), with regard to the severity of PH in this subset of safe-sleeping SIDS cases. We conducted a retrospective study of all postneonatal cases accessioned by the Office of the Medical Examiner in San Diego County, California who died of SIDS or suffocation between 1999 and 2004. A total of 74 cases of sudden infant death caused by SIDS (34 cases as defined above, comprising 8% of the total SIDS cases), accidental suffocation (37), and inflicted suffocation (3) from the San Diego SIDS/SUDC Research Project database were compared using a semiquantitative measure of pulmonary intra-alveolar hemorrhage. The most severe (grade 3 or 4) PH occurred in 35% of deaths attributed to suffocation, but in only 9% of the SIDS cases. Age, duration of CPR attempts and PMI had no effect on the severity of PH in SIDS. Our results indicate that the severity of PH cannot be used independently to differentiate SIDS from suffocation deaths. Each case must be evaluated on its own merits after thorough review of the medical history, circumstances of death, and postmortem findings.

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