



### I3 Sudden Death of a Child: What Could Have Happened in a Family With a Different Socioeconomic Status?

*Erica Bacchio, MD\*, University of Ferrara, Dept of Legal Medicine, Via Fossato di Mortara, 70, Ferrara 44121, ITALY; Omar Bonato, MD, University of Ferrara, Dept of Legal Medicine, Via Fossato di Mortara, 70, Ferrara 44121, ITALY; Elena Lucenti, MD, University of Ferrara, Dept of Legal Medicine, Via Fossato di Mortara, 70, Ferrara 44121, ITALY; Letizia Alfieri, MD, University of Ferrara, Dept of Legal Medicine, Via Fossato di Mortara, 70, Ferrara 44121, ITALY; Natascha Pascale, MD, Viale Degli Aviatori, Foggia 71100, ITALY; Simone Onti, MD, Unit of Legal Medicine, University of Ferrara, Via Fossato di Mortara 70, Ferrara 44121, ITALY; Stefano Malaguti, MD, via Fossato di Mortara, n70, Ferrara 44121, ITALY; Rosa Maria Gaudio, University of Ferrara, Dept of Legal Medicine, Via Fossato di Mortara, 70, Ferrara 44121, ITALY; and Margherita Neri, MD, PhD, University of Ferrara, Dept of Forensic Pathology, Via Fossato di Mortara 70, Ferrara 44100, ITALY*

After attending this presentation, attendees will better understand the importance of the diagnosis of malnutrition and failure to thrive in a child death investigation.

This presentation will impact the forensic science community by providing elements to diagnose the exact cause of death in a child neglect or abuse case as well as the legal outcomes which may result.

Fatal child starvation is uncommon in Italy, and, according to the National Statistical Data, malnutrition is related to being overweight and morbid obesity.

Child abuse and maltreatment are defined as a series of deliberate actions and/or omissions that are conducted by adults (parents, relatives, caretakers), or other children or adolescents, that result in physical or emotional damages or the imminent risk of serious damage or death. Maltreatment/abuse can be expressed as: a failure to provide age-appropriate care, spousal abuse in the child's presence, psychological maltreatment, physical maltreatment, and sexual abuse. Classifying various forms of child maltreatment is useful for exemplifying goals, but children are usually victims of different types of maltreatments simultaneously. The neglect of a child without appropriate care is an ongoing pattern of inadequate care by parents and caregivers. It includes child neglect, lack of care, inappropriate care at the time, and excessive care.

Child neglect is defined as a type of maltreatment related to the failure of parents to provide for the child, which could cause serious damage. The signs of child neglect are a sense of abandonment, refusal, failure to thrive, or other forms of abuse (which may be life threatening). Neglect has received less attention than physical and sexual abuse, probably because it is difficult to identify and often includes other forms of maltreatment.

This case study describes a 2-year-old girl who was found dead on the sofa by her mother's partner. The child was known to social services for suspected abuse after being admitted to the hospital for a fracture of an upper limb and bruises, which the mother reported as an accidental fall. Furthermore, the child was suffering from psychomotor retardation associated with serious self-inflicted injuries with bites, hitting her head against the wall, and pulling out her own hair. Consequently, she was transferred to neuropsychiatry, but the drug therapy (periciazine) administered by her mother was ineffective. A week before her death, the child was admitted to a pediatric hospital with severe anemia, failure to thrive below the third percentile of growth, and electrolyte imbalance; however, the mother decided to take the child back home, against the advice of doctors.

The case had multiple risk factors leading to neglect: the mother's young age, low socioeconomic status and education, dysfunctional family characteristics (child's parents were half-siblings, adopted by two different families), the presence of an adult unrelated to the child (mother's new partner), and parental stress.

The case study included the scene investigation, autopsy, toxicology, and police investigation. The external examination was remarkable for multiple limb bruises, bitemarks on her hands and upper limbs, and scratches on the face. The autopsy was negative. There was no chest or head trauma, only the results of the known upper limb fracture. The gross examination of the heart revealed left ventricular hypertrophy and histology exhibited the usual finding of restrictive cardiomyopathy, such as interstitial fibrosis. The toxicological test was positive for a therapeutic range of periciazine.

Finally, the cause of death established was cardiac arrest due to restrictive cardiomyopathy, which is known for having a poor prognosis in children. This case met legal challenges due to disagreements regarding the cause of the child's failure to thrive. In other words, the legal question was whether malnutrition was due to neglect or to cardiomyopathy. In the end, although neglect was not the cause of death, it certainly was related to it. In any case, studies reveal there is poor knowledge of child neglect among medical resources, which leads to a higher rate of sickness and death among these children. This case report illustrates that even in highly suggestive cases of abuse or neglect, it is necessary to refer to the report of the child's death investigation and pay attention to risk factors in the family context; beginning from the crime scene investigation and medical records to the autopsy and histological findings.

Establishing the cause and the manner of death may lead to different legal outcomes in cases that clearly involve child abuse or child neglect.

#### **Child Neglect, Cardiomyopathy, Maltreatment**