



H97 Sudden Death of a 3-Year-Old Girl Due to a Rare Thymic Neoplasm

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After attending this presentation, attendees will be familiar with a rare cause of sudden death in children that can be avoided if diagnosed and treated early.

This presentation will impact the forensic science community by highlighting the need for clinicians to consider a mediastinal mass in cases of breathing difficulty in children. The present case outlines one of the many contributions that forensic pathology can make to medical knowledge, providing warnings that can prevent similar deaths in the future.

At home, a previously healthy 3-year-old girl suddenly presented with difficulty breathing associated with cough and stridor. The parents called the emergency services. Doctors gave the baby a corticosteroid and an aerosoltherapy with adrenalin. When the child was taken to the emergency department, the symptoms ceased and she was thus discharged. Five days later, another similar episode occurred. Again, by the time the patient was admitted to the hospital, the symptoms had already stopped. A diagnosis of laryngospasm was rendered and the parents were advised to take the baby to an allergist for a detailed examination. The baby was allowed to go home with a prescription for a corticosteroid and a bronchodilator. No instrumental examinations were performed.

After three days, during which nothing remarkable was noticed by the parents, the little girl had another episode of difficulty breathing, followed by a loss of consciousness. When first aid arrived, the baby was in cardiac arrest. Resuscitation efforts were initiated but were unsuccessful, and death was declared.

A forensic autopsy was ordered by the prosecutor to consider the possibility of a medical mistake.

The external examination revealed a well-nourished, 98cm-long girl. The autopsy disclosed a large mediastinal mass that measured 11cm x 11cm x 6.5cm and weighed 540g. The neoplasm was within the thymus and had already invaded the pericardium and pleura, reaching the diaphragm. The lungs were partially collapsed, due to the large mass occupying the plural space, and showed edema and congestion. Histologically, the neoplastic nature of the tissue of the thymic mass was confirmed, as well as its invasive tendency. Therefore, death was attributed to the mechanical compression by the mass on the airways, the lungs, and the heart. The mass was identified as a malignant thymus neoplasm, classified as a carcinoma.

This type of tumor is extremely rare, especially in childhood, and its prognosis is poor if not diagnosed early, due to its invasiveness and rapid growth. Early diagnosis and complete resection are essential in order to achieve a good outcome.

The evaluation of the medical conduct excluded any medical responsibility in the mismanagement of the patient during the two admissions to the emergency department. This conclusion was reached by considering the lack of specific indications of the instrumental examinations (chest radiography, Computed Tomography (CT) scan), as the hypothesis of a laryngospasm due to an allergic reaction seemed to be the most probable. In fact, the clinical pattern was consistent with this diagnosis and nothing remarkable was observed during the objective examination (especially concerning the thorax). Only by performing the autopsy was it possible to arrive at the diagnosis.

The present forensic case represents a contribution to the improvement of clinical science, as it brings out a very rare cause of sudden death in childhood that, if recognized early, can be successfully treated. This case is worth highlighting as the knowledge it imparts can be helpful in avoiding similar deaths in children.

Sudden Death, Thymic Neoplasm, Medical Responsibility