LW5 A Modern Case of Pitt-Hopkins Syndrome With Comparison to a Historic Case of a Feral Child Discovered in the Forest of Germany

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Learning Overview: The goal of this presentation is to educate attendees about the recognition of a rare congenital disorder characterized by breathing abnormalities with apnea and seizures, which could lead to sudden death.

Impact on the Forensic Science Community: This presentation will impact the forensic science community through the recognition of a recently described, rare genetic syndrome in a historic case with documented dysmorphic features in hand-rendered pictures, such as a painting, and symptoms in written documentation.

The case was that of a nine-month-old female child with congenital anomalies and mental disability who was referred to the medical examiner as a sudden death under unknown circumstances at her residence. She was born at 34 weeks gestational age via vaginal delivery with intrauterine growth retardation at 1,510 grams and a head circumference of 28 centimeters. Labor was induced due to worsening oligohydramnios. Prenatal ultrasound revealed fetal anomalies including a 2-vessel umbilical cord, situs inversus of the stomach (on right side), cardiac anomalies (interrupted inferior vena cava with continuation through the azygous vein, patent ductus arteriosus, patent foramen ovale and levocardia), hypoplastic corpus callosum and feet positioning abnormalities. Genetics testing revealed chromosomal 18q21.2q23 deletion. Symptoms included periodic breathing with desaturations and severe developmental delay, marked eczema, poor growth, increased sweating, and suspected cortical blindness. At the time of her death, she was known to have had diarrhea for five days. The infant was placed in a bassinette on her right side the evening prior to death and was heard early the next morning making her usual sounds. Later that day, she was found unresponsive, in a supine position with no airway-obstructing materials nearby.

Autopsy revealed an atraumatic, less than third percentile size, mildly dysmorphic female infant. Findings included microcephaly, deeply set eyes, low frontal hairline, curly hair, eczema of the forehead and scalp, prominent lips, situs inversus of the stomach, polysplenia, and appendix. A thin corpus callosum with absence of the cavum septum pellucidum was noted. Gross and *microscopic examination of the small and large intestine were unremarkable for pathogenic changes.* The toxicology screen was negative. The vitreous electrolytes were significant only for a mildly elevated urea nitrogen of 43mg/dL. The cause of death was attributed to complications of Pitt-Hopkins Syndrome. The mechanism of death most likely originated from abnormalities of breathing with hypoxia or a seizure.

Research in the present case disclosed a historic case of a male child of unknown parentage discovered in the forest of Germany in 1725 by a hunting party of King George I of England. This feral child was uncivilized, walking on all fours, without language skills. When moved to London, attempts to teach him to speak, read, or write were unsuccessful. He had typical features seen in Pitt-Hopkins Syndrome, such as course, curly hair, drooping eyelids, short stature, curvy "Cupid's bow" lips, and thick lips. After the initial public curiosity, the child was moved to live the remainder of his life on a farm in Northchurch England. Because he would wander off, a leather collar with the inscription "Peter the Wild Man" was placed around his neck. He died around the age of 71 or 72 in 1785 and was buried in Northchurch with a gravestone stating "Peter the Wild Boy."

Pitt-Hopkins Syndrome is a congenital condition manifesting as moderate to severe intellectual disability with characteristic dysmorphic features and symptoms of breathing abnormalities with apnea and hypoxia. Seizures, delayed psychomotor skills, and stereotypical extremity movements are also seen. Autistic features are also common. The genetic anomaly most commonly seen is a deletion of chromosome 18 (18q21.2q23). The gene affected is Transcription Factor 4, which codes for a protein controlling cell differentiation and apoptosis in the brain, muscles, lungs, and heart. The physical findings seen in a painting and later hand-rendered pictures of Peter and written documentation of his psychomotor disability were recognized as those found in Pitt-Hopkins Syndrome. This is an interesting and educational comparison of a modern case to that of a historical case of a man who beat the odds of surviving for an unknown time alone foraging in the woods with severe disabilities.[1-5]

Reference(s):

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Pitt-Hopkins Syndrome, Deletion 18q, Haploinsufficiency