F11 Clinical Age Estimation in the Case of a Child With Seckel Syndrome

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The goal of this presentation is to present a case that was a challenge for Colombian forensic scientists because the chronological age of the child was undetermined as a result of low weight and height development, low psychomotor development, mental retardation, and unknown medical and family history. Additionally, the child's physical characteristics were consistent with Seckel Syndrome.

This presentation will impact the forensic science community by discussing how age was estimated on an abandoned child with physical characteristics consistent with Seckel Syndrome.

The child was referred to the Forensic Clinic of the Basic Children Unit of the National Institute of Legal Medicine by the Colombian Child Protection Institute (ICBF) for purposes of "Age estimation and determination of physical condition," pursuant to law 938 of 2004. The Institute of Legal Medicine provides technical and scientific support to the legal system in areas that include age estimation of abandoned children, which is a common problem in Colombia.

As part of the medical history, the social workers who accompanied the child during the forensic process explained that the mother had abandoned the child at the baby sitter's house. Consequently, her origin, her parents' names, her name, her family and medical history, and her chronological age were unknown. The forensic assessment conducted by a medical examiner and a forensic odontologist showed clinical characteristics consistent with Seckel Syndrome or "Bird Head" syndrome. The most relevant features of this syndrome are microcephalia, large, elongated, protuberant eyes with strabismus, marked telecanthus, and short palpebral fissures. The face was asymmetric and elongated, with small mandible and notably retracted forehead and chin, as compared to the rest of the face. Other characteristics included long, curved, and very prominent beak-like nose, short and curved fifth finger on both hands, eleven ribs, hip luxation and dysplasia, significant mental and psychomotor retardation, and indications of the stature and weight of a 2-year-old child. All of the above are described in the literature as typical signs of Seckel Syndrome.

A notable retardation of weight and height development was observed, which corresponded to a 2-year-old child. Bone age was consistent with a 3-year-old child (the pediatric radiologist used the Greulich & Pyle method). Dental age, according to the method of Moorrees et al (1963), was 8.75 years. The method of Demirjian et al (1991) indicated 9.3 years of age. Significant discrepancies were found between staturo-ponderal age, bone age, and dental age.

Many authors have described tooth root formation and dental calcification evolution (periapical X rays) as more reliable methods to obtain an approximation of the clinical age up to 21 years of age, in average. This is due to the fact that eruption and dental calcification are less affected by social, environmental, nutritional, genetic, and endocrine factors.

A thorough medical and dental analysis was conducted. Weight, height, bone, and teeth development were examined. The physical condition of the child resulting from the Seckel Syndrome and the influence of this pathology on stature, weight and bone maturation were taken into account. All of the above, combined with the opinion of pediatric radiology experts, contributed to establish an approximate clinical age of 8.5 years. This was the result of an interesting interdisciplinary approach.

Seckel Syndrome, Clinical Age, Abandoned Child

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