

A25 Human Trafficking: A Challenging Case of Age Assessment

Greta Cena, MD*, University of Torino, Torino 10126, ITALY; Caterina Bosco, MD, Department of Public Health and Pediatrics, Torino 10126, ITALY; Luana Bonaccorso, MD*, University of Turin, Turin 10126, ITALY; Davide Santovito, MD, Department of Public Health and Pediatric Sciences, Turin 10126, ITALY; Sara S. Racalbutto, PsyD, Dipartimento di Pediatria d'Emergenza, A.O.U. Ci, Turin, ITALY; Elena Coppo, MD, Department of Pediatric Emergency, Turin, Metropolitan City of Turin, ITALY; Giancarlo Di Vella, MD, PhD*, University of Torino, Department of Public Health Sciences, Torino 10126, ITALY

Learning Overview: After attending this presentation, attendees will better understand the importance of careful clinical examination to uncover anomalies that could influence bone growth or dental maturation when the assessment of biological age is required.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by enlightening the need of a multidisciplinary approach to age estimation. When a Victim of Human Trafficking (VHT) has to be evaluated, psychological maturity and physical appearance must be considered.

There are approximately 800,000 people trafficked across international borders annually. Due to its geographical position, Italy is one of the main countries of destination for human trafficking via the Central Mediterranean route.¹ According to recent estimates, the number of VHTs who arrived in Italy by sea for sexual exploitation has increased by 600% in the past three years. Nigerian girls aged between 16 and 17 are the most affected by this phenomenon, accounting for more than 90% of all victims.² The number of applications for forensic age assessment in undocumented VHTs drastically increased in the last period because of the prevalent involvement of minors close to 18 years of age. In Italy, the proof of being over or under the age limit of 18 years is required for legal decisions about procedural privileges and social benefits.³

A multidisciplinary evaluation, including a clinical, radiological, dental, pediatric, and psychosocial assessment, is recommended.⁴ However, sometimes a discrepancy between physical and psychological maturity estimations occurs. In these cases, a comprehensive clinical examination is fundamental to disclose signs suggestive of conditions capable of interfering with the maturation rate of the individual.⁵

This presentation reports a challenging case of multidisciplinary age estimation of a six-month-pregnant VHT, who had been trafficked from Nigeria and sexually exploited in Italy. She claimed to be 20 years of age, but no identification document was provided.

The cognitive development resulting from the psychosocial assessment corresponded to a maturity degree consistent with adulthood, even considering the traumatic events she suffered. Skeletal radiology was not feasible due to the advanced stage of pregnancy. The absence of erupted lower third molars and their immaturity at Orthopantomogram (OPG), performed before the pregnancy, pointed to a minor age. A closer examination of the OPG images showed unusual alterations of mandibular trabecular bone and changes of tooth shape and size, particularly at the pre/molar level. Thus, further investigations were performed. Anemia with increased Red blood cell Distribution Width (RDW) and qualitatively abnormal Hemoglobin (Hb) were found. The diagnosis of Sickle Cell Trait (SCT) was reached through electrophoresis and genetic testing. SCT is a benign form of hemoglobinopathy with heterozygous inheritance affecting up to the 20%–30% of the Nigerian population. The homozygous form is known to cause impaired growth and a delay in teeth development.⁶ Although individuals with SCT are normally asymptomatic, recent studies have demonstrated significant higher frequencies of radiological dental and bone changes, including hypercementosis of the roots, changes in tooth shape and size, and stepladder-pattern bone alteration.⁷ In this case, OPG findings were consistent with these modifications rarely described in literature. The hematologic disease could cause a delay in teeth eruption and mineralization, leading to an underestimation of chronological age. Based on these findings, the age reported by the girl was deemed reasonable.

This presentation stresses the importance of including a careful clinical examination in age estimations to avoid ethically unacceptable mistakes. Physicians should be aware that some diseases can interfere with physical development; most of these conditions lead to growth delay, causing an underestimation of age.⁵ Since, in Italy, being less than 18 years old ensures benefits from a wide range of protection measures, such underestimation would not disadvantage the person concerned. However, the main purpose of age assessment is to re-establish the identity of a VHT. Therefore, it is important to exclude these particular medical conditions to ensure an appropriate, reliable, and genuine social integration, consistent with the physical and psychological maturity degree of the VHT.

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Multidisciplinary Age Estimation, Human Trafficking, Sickle Cell Trait

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