

IN MOTHERLESS IDENTIFICATION CASES, IT IS POSSIBLE PASS A CHILD BY THE FATHER

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We present the analysis of three brothers involved in a criminal case that share alleles in fourteen of the fifteen genetic markers. In the system where they do not share genetic information (vWA between brothers one and two, and two and three and D7S820 between brother one and three), it would be logical to think in a single step paternal mutation.

Although the goal of case was not kinship and we don't have information about the relationship of consanguinity between the parents (possible high relation kinship between them), we are interested in the fact that three brothers shared allele in fourteen genetic markers. Additionally, we confirm the same paternal line between them by "Y" chromosome haplotype.

We performed simulations taking each one of them as the father of the other two brothers and calculated the paternity index and the odds on each combination, getting in all the simulations results with probabilities greater than 99.999% and high paternity index.

These simulations illustrate the importance of increasing the number of markers and having enough non-genetic information when the laboratory works on identification in cases where there are economic interests (inheritance, pensions, insurance, employee benefits, etc.), to avoid mistakes.