

Use of Paternity Data for Identification of a Missing Individual

Freund M.; Gast A.; Israel S.; Brautbar C. and Amar M.

L. Greenberg Institute of Forensic Medicine, Tel-Aviv, Israel, Tissue Typing Unit,
Hadassah Medical Organization, Jerusalem, Israel



The body of an elderly woman was found shot in her apartment. Concomitantly, the police were informed that the daughter of the deceased and the daughter's son were missing. Several months later, the above mentioned boy and his father were found in a hiding place overseas under false identities. The father was hence accused of double homicide.

The missing woman has not as yet been found though the interior of her car and some personal belongings in it were largely stained by blood. A small bloodstain was also found in the accused's car. A comparison of DNA profiles determined from the stains from both cars highly indicated a common source. The PCR-based loci which were analyzed were: PM; HLA-DQA1; D1S80; STRs: CTT, TPOX, CSF and Amelogenin.

Since no reference sample from the missing woman was available, her identification was achieved by comparing the typing results from both cars with the DNA profile of the deceased mother and son.

In the course of the investigation, the police came across information regarding a paternity test carried out eleven years earlier (1985) in which serological HLA Class I analysis was performed on the involved individuals. The missing woman's son inherited from his father, (the accused), the haplotype A28, CW4, B44 and from his mother the second haplotype A24, CW-, B38.

When DNA extracted from the missing woman's car was submitted to HLA Class I molecular analysis using the PCR-ARMS method, the following alleles were detected: A24, A31, B38, HLA-A24, B38 alleles were possibly passed on by the missing woman to her son.

In conclusion, we bring out the potential applications of data from various genetic systems, including HLA typing, for possible future identification purposes.