



# The inclusion of profiles of evidence of sexual aggressions in DNA databases: The viewpoint of a forensic genetics laboratory

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**Abstract.** The aim of this work is to provide objective data that may serve to aid the drawing up of future database regulations according to the true situation of the forensic sciences in Spain. © 2005 Published by Elsevier B.V.

*Keywords:* National DNA database; DNA profile; Sexual aggression; Forensic genetics

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## 1. Introduction

We have detected a 61% increase in sexual aggressions during the last 6 years, but the number of reports concluded with the comparison of the DNA profiles of the evidence stains with the reference samples has diminished the 11% in the same period. The low percentage of matches registered (13%) during 2004 could be due in part to the impossibility to compare the male DNA profiles that are different from those of the victims employing a DNA database of offenders.

In Spain, there is no specific law authorising and regulating DNA profile databases; however, Law 15/1999, 13th December, regarding personal data protection, foresees the creation of public administration files that include personal data related with penal and administrative offences. In this Law, no reference is made to the principle of proportionality in crime investigations [1,2]; it was included for the first time in article 363 of the Criminal Prosecution Law, modified by Law 15/2003, 25th November. On the other hand, the actual legislation in Spain regarding state security or police files (M.O.

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26th July 1994, Ministry of Interior; Order 1751/2002, 20th June, Ministry of Interior; Order 18th March 1988, Civil Guard Headquarters) does not clarify many of the abovementioned doubts and questions. The aim of this work is to provide objective data that may serve to aid the drawing up of future database regulations according to the true situation of the forensic sciences in Spain.

## **2. Material and methods**

Documents relative to the 2004 sexual aggression casework were revised to obtain information about the characteristics of those cases in which the victims most frequently could not recognize their assailants or the layers did not ask for the comparison of DNA profiles with the identified perpetrator. A list with the available names of the suspects related to the sexual assaults investigated last year was drafted. Two persons working independently in the two State Police compared the names, with the data included, registered in their general felon databases. The names of 30 children younger than the age of 10 (median age  $3.5 \pm 2.5$ ) registered in our laboratory in paternity testing, were used as negative controls. Under the overview of two magistrates, and according to the Spanish revised legislation, the anonymous results of both searching were analysed.

## **3. Results and discussion**

Presence of semen was detected in 44% of sexual assaults in our 2004 casework, but comparison with the reference samples of the suspects was only made in 16% of the cases investigated. The types of cases in which we have detected minor incidence of reception of reference samples have been: victims assaulted under drug or alcohol effects or during unconsciousness (4%, 58% of cases with semen), victims displaying any degree of psychic defaults (5%, 29% positives), dead victims (12%, 38% positives), aggressor from the nearest environment of the victims (17%, 43% positives), minors (22%, 31% positives) and foreign victims (25%, 51% with semen).

From the list of the 98 available names of suspects in 2004 casework, 65 were registered in the general databases of the State Police Force, and 33% of them had been arrested on one or more occasions previously to the date of the sexual assault (with a total of 103 transgressions covering from falsifications to murders; in two subjects violation was added to another crimes). During the period between the date of the sexual aggression and the emission of the laboratory report, 53% of suspects were registered with arrests; we could observe that only six suspects had been arrested after the emission of our report, none of them were associated with sexual assaults. From the results obtained from our approach with the individuals implicated in sexual aggressions, we recommend the analysis of the incidence of the previous and later crimes committed in specific penal categories in order to refine the criteria regarding the introduction and elimination of genetic profiles of delinquents in databases. Problems associated with the saturation due to an excess of useless information in a future database could be prevented.

With regard to the need for specific regulations for the inclusion and custody of DNA profiles and their corresponding samples, the recent O.L. 15/2003, 26th November

2003 entails some modifications to the Criminal Prosecution Law (R.D. 14th September 1982 and latter modifications). The third additional resolution states: "... the government shall regulate by means of a royal decree the structure, organization and the working of the National Commission for the forensic use of DNA". This initiative represents an open door to the possibility of satisfying the demands of different groups (State Security and laboratories responsible for DNA analyses). The modifications in the Organic Law (13/2003) should be supported by prudent and practical ethical-legal analysis of the consequences that they may have on the rights of those citizens who may potentially be affected—i.e. it should not be the result of a hasty legislative reaction brought about by the alarm caused in society by a succession of crimes. The creation of legislation should not depend on interpretive criteria as this implies problems for the principle of juridical security and implied rights. Regulations in force, social demands, the viability of the system adopted as well as the safeguarding of the fundamental rights of the citizen may also be affected [1,2]. On the other hand, we feel that it would not be unwise to create supervision and management systems specifically for the protection of human genetic data in Spain, taking into account article 20 of the International Declaration of Human Genetic Data [3], also referred to in [4] (DNA Profile National Agency). As some authors point out [5] the Data Protection Agency, entrusted with the monitoring of files and information as well as the fulfillment of the principles discussed in this paper, does not have the clearly assigned responsibilities or the independence necessary to enable it to become an organ that could effectively defend the privacy and rights of the citizen.

In the text regulating DNA databases [4], there appears a reference to the organization and accreditation of forensic DNA laboratories. Spain does not have at its disposal National Standards or Reference Materials in the forensic field and most Spanish forensic laboratories have no accreditation. Because of the satisfactory results obtained in the annual open proficiency testing in the PCR-based techniques [6], it appears feasible for the interested laboratories to obtain the accreditation in such techniques. Nevertheless, criminal casework covers a series of pre- and post-analytical phases whose efficiency can only be determined by in place visits to the laboratories, by testing error rates, or by voluntary participation in a blind proficiency test with a fictitious case investigation, to evaluate all aspects of the laboratory examination procedure [7]. In order to adapt our laboratories to future needs, a multidisciplinary board of scientists should be created. Their responsibilities would be to set standards, to license forensic laboratories and their personnel and to address guidelines in all aspects of the investigation of criminal cases as specified in Organic Law 15/2003, 26th November.

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