

Legal, social and ethical analysis on compulsory DNA collection in the forensic sciences of Albania

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Abstract

“DNA fingerprinting” through the taking of blood and other secretions of the human body is considered as one of the most revolutionary advances in forensic identification and is of particular interest to forensic medicine. Although DNA identification has to do with personal identity, it is possible to test the material for this examination, from respective laboratories, together with the DNA on the whole. In contrast to fingerprinting (the science of fingerprints, used in forensic practice to identify a person, since the early 1900s), the forensic use of DNA samples for identification requires more care because it risks compromising the privacy and individual freedoms. It is therefore necessary that these examinations strictly respect the ethical rules of consent and confidentiality. In our country, where DNA examinations for resolving criminal and civil cases have started to be performed by the scientific police institute, only after the 2000s, this type of examination was not provided in the 1995 Code of Criminal Procedure. Article 199 of this code only stated that in relation to blood sampling, it can be performed even without the will of the person, if there is no risk to health. Then in 2017, in an amendment of this code, in article 201 / a, is presented the detailed procedure that must be observed for taking samples of blood and other tissues of the human body for performing DNA analysis, where first of all, the consent of the person to be examined must be respected, without excluding the possibility of taking them compulsorily. In this study, the authors, after the presentation of some features of DNA uses in forensic sciences, analyze in detail the important issue of consent and confidentiality, which reflect the principle of independence of the person

in the fields of medical sciences, compared to that of consent and confidentiality in criminal matters, including that of DNA analysis. In conclusion, it is emphasized that the application in Albania of DNA analysis in criminal and civil cases requires great care in implementing the procedures set out in the relevant legislation, including the principles of consent and confidentiality in obtaining and storing their data for respecting human rights and preserving human dignity.

Key words: *compulsory DNA identification, forensic sciences, consent, confidentiality, Albania.*

1. Introduction

The legal, social and ethical issues of DNA analysis are becoming more and more important today, compared to previous years.

In fact, in contrast to fingerprinting, the forensic use of DNA samples for identification requires more care because it risks compromising the privacy and individual freedoms (Çipi,2003, Michael, 2010).

It is therefore necessary that these examinations strictly respect the ethical rules of consent and confidentiality.

In this study, the authors, after the presentation of some features of DNA uses in forensic sciences, analyze in detail the important issue of consent and confidentiality, which reflect the principle of independence and secret of the person in the fields of medical sciences, compared to that of consent and confidentiality in criminal matters, including that of DNA analysis.

2. DNA genetic profile

Genetic traces of DNA, today they are providing a great help in service of forensic sciences for the correct and impartial solution of various forensic and criminal issues (Çipi et al, 2015,2017,2020):

-identification of unknown fresh or rotten and skeletal corpses, comparing their DNA with the DNA of these victims who may have been preserved before death, or with that of parents or children and other relatives of them.

-determining whether the biological material evidence (blood, semen, hair, etc.) found at the scene, belongs or not to the victim, the defendant, etc.

- issues of determining paternity and maternity.

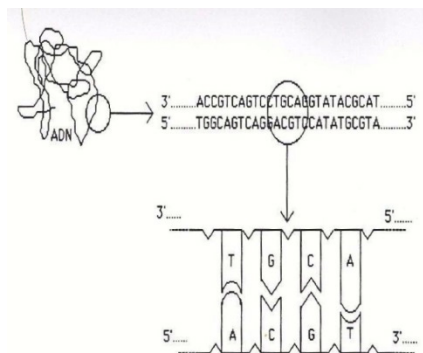
Theoretical basis (Çipi et al, 2015,2017,2020)

Features on theoretical grounds, techniques used for DNA detection are

generally complex. In fact, their application requires the use of highly specialized reagents and apparatus.

The DNA, or deoxyribonucleic acid found in each of the chromosomes of every cell in the human body, is made up of 2 molecules in the form of a double helix. In each band of this helix, (so in each of these two molecules) are located in a variable order, the following 4 nucleotides: adenine (A), thymine (T), cytosine (C) and guanine (G), joined together by connexion of sugar and phosphate molecules.

On the other hand, the nucleotides of each band are coupled with those of the other band of the helix through their hydrogen connections that are realized between guanine and cytosine (with three valences) and adenine and thymine (with two valences). In this way the construction of one band of this double helix will define that of the other, but in the opposite direction, thus giving this helix an antiparallel structure. Schematically, the double helix of DNA can be compared to a twisted scale, in which coupled nucleotides form its scales (10 such for each of the twists of this helix), while the sugar-phosphate groups, the side parts of scale (handrails).



PART OF THE DNA HELIX



THE DOUBLE HELIX OF DNA

An extended DNA molecule will reach a length of 1.8 m and contain about 3 billion nucleotide pairs. Of these, only 10-20% of them contain the genetic code related to heredity. In connection with this genetic code, in the DNA segments belonging to it, are found encoded messages, represented by many triplets of nucleotides (A, T, G, C), which command the synthesis of proteins, through the respective amino acids of them. They thus make possible the detection of genetic diseases, the prediction of later diseases (predictive medicine), the possibility of DNA manipulation (genetic engineering), so in a nutshell they make possible the so-called decipherment of the human book “dechiffrer le livre de l’homme”. While the rest of the DNA molecule that is not related to genes, that is, its uncoded part, can contain a number from 200 to 14000 identical, repeated sequences. They are permanent and immutable in each individual and are transmitted regularly from parents to children. They will therefore be considered as completely identifiable individual features for each person, except for uniovular twins, where they will be identical to each other, as they originate from the DNA molecule of the same egg fertilized.

In human cells, in addition to the ordinary DNA found in their nuclei, there is also mitochondrial DNA (mtDNA), present in mitochondria, energy-producing organelles located in the cytoplasm of cells. The sensitivity of mtDNA analysis is higher, which makes it possible to determine genetic traces even from very small samples, such as a single cell, or hair without roots. On the other hand, mtDNA is inherited from the mother, so it will be similar to that of the mother and all other relatives from the mother.

Principles of methods used and circumstances of their application(Çipi et al, 2015,2017,2020)

Identification of repetitive non-coded DNA sequences is usually achieved by following a definite methodology.

At the end of this examination, genetic traces will be taken, or the so-called autoradiogram, or genetic profile containing a series of parallel strips, placed in certain positions. By comparing them with those of the genetic material of the victim, the suspect, etc., based on the position of the audiogram strips (genetic profiles) that are being compared, it will be possible to determine or not accurately determine the identity of the genetic samples analyzed.



DIFFERENT GENETIC PROFILES

Two types of results are possible:

-if one profile turns out to be identical to another, it is a matter of genetic compatibility, - otherwise, when one or more systems present a genetic profile different from the reference sample, this will be considered genetic incompatibility.

So in the absence of comparative material, this type of examination will be worthless.

As a comparative material, e.g. with the sperm found in the vagina of a victim of a sexual crime, there is no need to compare the sperm of the suspect (so sperm with sperm), but also blood, or other tissues, because DNA, that is individual for each person, is found in all cells of an organism.

Another important area of forensic use of genetic DNA traces concerns paternity determination issues with a more or less accurate determination of the identity of the biological father.

Each audiogram of the child being examined must belong to the father or mother; so half of them will be descended from the mother and the other half from the father. Initially, these examinations determine the compatibility of the child's autoradiogram strips with those of his mother; the remaining strips should all match those of the presumed father. If a discrepancy is found between them, in this case this examined person is excluded to be the biological father of this child.

Taking, storing and transporting samples in DNA examinations(Çipi et al, 2015,2017,2020)

The essence of the method of forensic examination of genetic traces through DNA is the comparison between the two samples.

One of them is the sample object-examination, taken from the living or dead individual (or various objects, such as clothes, etc. with which he has been in contact); while the other sample is the comparative, or control, sample taken from a single person or group of suspects, or from DNA bank records belonging to hundreds, or thousands, of individuals.

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From this presentation, although DNA identification has to do with personal identity, it is possible to test the material for this examination, from respective laboratories, together with the DNA on the whole.

For this reason, the laboratories that performs DNA analysis, it must be very careful respecting the principles of consent and confidentiality, protecting privacy and individual freedoms.

In the legal discussions of foreign countries as well as of our country, regarding DNA analysis, the issue of the need to respect the principles of confidentiality and

integrity or independence of the person, expressed by the the concept of consent, which are in fact two of the most important ethical principles during the practice of medicine (Christian Selinger, 2009; Michael, 2010).

According to these views, DNA analysis will be considered a medical procedure and as such, it requires the doctor to apply in these cases these two principles of medical ethics.

Therefore, the compulsory performance of this analysis, as provided in Article 201/1 of the Code of Criminal Procedure (2017), according to this position, would be in opposition to these principles of Medical Ethics.

Is this true?

To answer this question let us analyze the concepts of consent and confidentiality according to Medical Ethics.

3. Consent and confidentiality in the practice of medical professions

Consent

Consent will be considered as a right of the patient which authorizes the physician to carry out the demanded treatment, even if it affects the integrity of the patient, but it is provided in the patient's interest and explained it beforehand to the patient.

In other words, for the patient the given consent for a medical treatment, it means that he has made the choice of treatment (the principle of patient independence) and on the other hand has authorized the physician to apply this medication to his body (principle of respect for bodily integrity) (Parizeau,1993; Post,2003).

The common consent during treatment is several types (Çipi, 2005; Çipi, Meksi, 1996)

- Understood consent, oral consent (verbal), writing consent: eg. for an surgery.

For the application of consent, as an expression of the principle of patient independence, it should have these qualities (Çipi, 2005).

- Conscious consent means giving the patient consent without any obligation, or external constraint, or any manipulation that may have been made to this patient. Thus, in cases where force is used to the patient, or false information has been provided in order to ensure consent, such consent will be considered null .

- Informed Consent is considered when the patient has given the consent after having fully understood the information provided to him from the doctor. For this purpose, the explanations that the doctor gives to the patient in a direct way should be as complete and expressed as clear and understandable as possible.

Today, in the literature of these domains, the term “informed consent” has been widely used, meaning consent in general (Çipi, 2005).

- Substitute consent is a term that is used in cases where consent is sought from legally incompetent persons, for example, from children, mentally handicapped persons, sick in a comatose condition.

The main ethical dilemma, that may arise during the implementation of the consent, concerns the conflict that may arise between the principle of independence of the patient and that of the non-maleficence (beneficence) of the physician.

This conflict is related to the problem of refusal of treatment (Çipi,2005), which occurs in cases that the patient does not accept the medication proposed by the doctor (the patient does not give the consent). Such refusal, which can have severe, even lethal consequences for the patient, tends to strain his relationship with the doctor. In this case, the doctor must respect the decision of the patient, a decision that for the doctor is not in the best of the patient.

Thus, refusal of treatment in medical practice creates a conflict between the patient or his or her third representative and physician who harms the relationship between them.

In Albania, the consent is treated in Article 28 of Code of Ethics and Medical Deontology (2011).

Confidentiality

According to this principle the information that physicians learn about their patients in the course of their professional practice should not be disclosed to others. Good medical practice depends upon patients being able to discuss openly with the physician aspects of their health on the understanding that such details will be kept secret. It follows that any disclosure contrary to the individual’s interest is also potentially detrimental to the public interest since it may discourage frank exchanges in future.

In the absence of guarantees that their secrets will be protected patients may withhold important information about their health care and also about the wellbeing of others etc.

In the absence of guarantees that their secrets will be protected, patients may withhold important information about their health care and also about the wellbeing of others etc.

Some other characteristics of this principles are as follow:

- The inclusion of this principle in legislation shows that it has a general interest in the sense that it promotes the normal functioning of health institutions and social services. For this reason this principle is considered to have a public character (social).
- Additionally, medical confidentiality has deeply humane value based on the natural right of privacy, which is known to be part of the normal psyche of a person. In this regard, medical confidentiality will be one of the conditions necessary for the realization of relationships between people, while protecting the privacy and independence of the person as well as promote the development of qualities such as respect, love, friendship, trust, etc. (Çipi, 2005).
- *Cases where the principle of medical confidentiality does not apply* are specific situations encountered in dealing with infectious diseases as cholera, typhus, dysentery etc.; psychiatric illness such as schizophrenia, epilepsy that usually make people who suffer from them potentially dangerous to commit crimes; in violent deaths, unexpected deaths, deaths of pregnant women during abortion, in alcoholics etc. (Çipi, 2005).
- *The issue of collective application of the confidentiality principle* has been due to technical and scientific development of medicine, which has offset somewhat the classic doctor-patient relationship.
- *The conflict between the confidentiality principle and measures to be taken to prevent the disease* has arisen because to achieve a preventive function for various diseases is necessary to collect and transmit information about the health status of individuals by health organizations.

However, the discrepancy between the objectives of the state and the objectives of the individual, poses an ethical dilemma, a conflict between the right to maintain the privacy of the individual and the state's duty to protect public health and welfare.

Certainly, the foremost requirement of every individual is to be treated for the disease from which the individual suffers, possibly in the most confidential manner, thus respecting the principle of upholding medical confidentiality. Yet, even the patient can accept the violation of this principle, if information on this disease will not only serve to prevent this pathology in general, but also to protect the patient's own health (Çipi, 2005).

Truth the telling

In terms of the physician medically informing the patient, “telling the patient the truth” (truth telling), constitutes a particular form of medical confidentiality. From the ethical standpoint, the main issue has to do with the attitude of the physician, if he must inform the patient about the diagnosis of disease and especially the progress (prognosis) of a serious or fatal illness.

In medical practice, the resolution of this issue is very sensitive and can be accomplished under these three models (Çipi, 1996; (Çipi, 2005).

- *The paternalist model*, the patient is not informed about the diagnosis and prognosis of the serious illness in order to protect the patient from suffering and death.
- *The libertarian model* (the patient has a complete freedom of choice for any medical action), according to which the physician informs the patient openly, immediately, and without hesitation about the diagnosis and prognosis of disease.
- *The participatory model* (open dialogue between doctor and patient that is intended to benefit the patient), according to which the physician works with the patient carefully and with tact, preparing the patient spiritually early, informing little by little about the real situation/serious illness or by initially notifying the relatives of the patient.

In our opinion, participatory model is most appropriate manner to handle the way informing the patient is conducted, which in fact, is implemented in Albania.

Juridical aspects of medical confidentiality in Albania

Different problems of medical confidentiality were studied in our country, especially after 1990, and were also reflected in their respective legislation. Thus, in the Medical deontology code of 1994, the physician and support staff have the obligation to ensure the preservation of confidentiality (explicitly stated in Articles 11, 12, 13).

In the Code of Ethics and Medical Deontology of 2002, Article 21 included provisions to keep patient confidentiality and in Article 22 – the disclosure of the secret⁸.

Similarly, Article 17 of this code writes that: “The patient has the right to know the truth on their disease and to be informed with all results of analysis and other medical documents. However, if the physician judges that the information damages the health of the patient, then the physician is not obligated to inform the patient on the truth or to show them the medical documentation”. Thus, under this section, the third model (participatory) is applied, which deals with the issue telling the truth to the patient.

Articles 16 and 18 include provisions that deal with the physician's obligation to inform the patient and the patient's family.

From the presentation and discussion of the above data, it should be noted that medical confidentiality is still affirmed as one of the most fundamental principles of medical ethics.

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From what is mentioned above, both of these medical principles in preserving the dignity and independence, or integrity of the patient, have no absolute character (Compulsory and mandatory medical examination, 2018).

This is explained from the ethical and philosophical point of view, with the fact that e.g. one man's freedom cannot have an absolute character, because this would be significantly followed by the violation of another person's freedom. Likewise, the absolute right of consent of an individual will have a negative impact on the autonomy of other persons etc.(Christian, 2009).

Their absence of absolute character is reflected in the concepts of refusal of treatment and compulsory treatment, failure to maintain medical confidentiality in various circumstances, question of the conflict between the confidentiality principle and measures to be taken to prevent the disease, etc.

4. Consent and secrecy in inquiry questions and identifying DNA examinations

Consent and confidentiality in their general sense, in addition to genuine medical applications, are also encountered in criminal or civil cases, or in medical cases intertwined with legal ones (Compulsory and mandatory medical examination, 2018).

Even in these situations, again they have no absolute character.

For example, the consent of a minor girl, that she has agreed to have sexual intercourse with her, will not be taken into account in the qualification of the criminal offense against her, for the perpetrator of this crime.

Or the consent for conducting medical experiments with prisoners will be considered worthless. In other cases, for experiments performed on prisoners without consent, the doctors who performed them were prosecuted.

The most important problem of informed consent that has begun to emerge in our country is to use it in questions of medical malpractice (Çipi,2005).

Thus, when a physician accused of medical negligence, if he has applied the ethical rule of informed consent, this will protect him from the accusation raised

against him. On the contrary, he will be responsible for this accusation, which may be criminal or deontological.

Even in terms of secrecy, which does not have an absolute character, this is given in the Code of Criminal Procedure of 1995, where in Article 282: the obligation to report infectious diseases, according to the law of infectious diseases in 1993.

However, in this first code of medical deontology, confidentiality has an absolute character because exclusions to medical secrets did not apply. It appears that the application of medical confidentiality was under the influence of the French code of medical deontology.

It is in this period, in 1995, that the code of criminal procedure was enacted and in article 282 indicated that “the medical staff is required to inform the judiciary about third-party individuals that help, or intervene in medical problems associated with a crime.”

Under this section of the law of parliament, which overrules the deontology code (in Albania is only approved by the Order of Physicians), the absolute character of medical confidentiality was amended.

Some years later in the new code of medical ethics and deontology (2002), it was included the concept of no absolute character of confidentiality

According to DNA, the need of respecting of these principles is much bigger especially in the case of determining the paternity. The examination of these cases by DNA fingerprinting has a 100 % precision, for determining that the social and legal father is at the same time the biological one of the child (Çipi et al, 2015,2017,2020).

Diffusion of DNA fingerprinting data of this character may have dangerous psychosocial consequences, in reference to the destabilization of individuals, families.

This principle is expressed obviously also in the Universal Declaration On Human Genome and Human Rights of Unesco (1997).

This declaration has the ambition to secure the development of human genetics but respecting the dignity and the human rights for all the humanity. So, in the first article of this declaration it is underlined that: “in a symbolic sense the human genome is the heritage of humanity” (Çipi, 2003).

As for the need for respecting the principle of confidentiality (article 7 of this Declaration) is supported on the right of private life, in fact this is expressed in all the international important and legal documents after the second world war, starting with the Universal Declaration of Human Rights etc.

But on the other hand, according to this article, the confidentiality of these data have to be respected only when they belong to an identified person (Çipi, 2003).

So, if these data would be anonymous that they don't belong to a concrete person this principle wouldn't be applied.

A limitation like this of the confidentiality principle is necessary for justifying some uses of genetic data, for example in the field of epidemiological studies.

Also, there are some circumstances in which this principle may not be respected for the genetic data. For example, those prescribed by the article 9 of this Declaration according to it: “in order to protect human rights and fundamental freedoms, limitations to the principles of consent and confidentiality may only be prescribed by law, for compelling reasons within the bounds of public international law and the international law for human rights” (Çipi, 2003).

As you can see in this article, limitation are not only for the secret but also for the consent.

So, for example, all the genetic data will not be kept secret in the cases when they have to do with penal cases, or civil one, which in fact they correspond to the medico-legal genetic fingerprinting. This because is affected or threatened the life of a person etc. (Çipi, 2003).

In Albania a particular attention has been showed to the issue of consent for DNA analysis

These analysis for resolving criminal and civil cases have started to be performed by the scientific police institute, only after the 2000. So this type of examination was not provided in the 1995 Code of Criminal Procedure. Article 199 of this code only stated that in relation to blood sampling, it can be performed even without the will of the person, if there is no risk to health.

Then in 2017, in an amendment of this code, in article 201 / a, is presented the detailed procedure that must be observed for taking samples of blood and other tissues of the human body for performing DNA analysis, where first of all, the consent of the person to be examined must be respected, without excluding the possibility of taking them compulsorily.

Article 201/a

Compulsory collection of biological samples or performance of other compulsory medical procedures.

1. Compulsory collection of biological samples from a defendant or other persons, or performance of a compulsory medical procedure can only be conducted in accordance with the provisions of this article.
2. The prosecutor, with the consent of the defendant or other persons, can request the collection of biological samples, for the purpose of establishing the DNA profile. Same provisions are applied on the performance of medical procedures.

3. Consent is given in writing. The person whose sample will be taken or will be subject to a medical procedure, signs in the presence of the prosecutor a declaration consenting and confirming on being notified on the reason for the collection of the biological sample or performance of the medical procedure.
4. Such consent for minors is given by the parent or the legal guardian.
5. Upon request of the prosecutor, the court can decide for biological samples or medical procedures to be taken or conducted without the consent of the person and, if necessary limiting his freedom, if no danger comes to his health and if necessary to prove the evidence. Medical procedures that threaten the life of the person, his physical integrity or health, that may harm the unborn child or which, according to medical protocols, may cause illegitimate pain.
12. When the biological sample or medical procedure is collected or performed on the suspect or the defendant, his/her defense lawyer's presence is obligatory.
13. In case of collection of biological evidence or performance of a medical procedure on a minor, the presence of his/her parent, legal guardian or trusted person is obligatory.
14. Results of analysis of biological samples or medical procedures collected contrary to the provisions of this article cannot be used." Article 201/b of ACCP provides for the destruction of the biological samples collected.

In fact, in the DNA analysis, which is performed in the scientific police institute of our country, the procedure of obtaining the consent is strictly applied, by the person from whom material is taken from his body for its performance, except in cases when it is taken compulsorily.

So, according to this law, giving consent by the person to whom this analysis is being performed, has no absolute character.

In fact, this attitude is in concordance with that of consent and confidentiality in Medical Ethics and the respective international legislation (Doutremepuich, 1998; Henning, 2010; Budowle & Simon, 2002).

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In conclusion must be stressed that the application in Albania of DNA analysis (obtaining and storing their data) in criminal and civil cases requires great care in implementing the procedures set out in the relevant legislation, including the principles of consent and confidentiality for respecting human rights and preserving human dignity.

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