ORIGINAL RESEARCH PAPER
VOLUME-6 | ISSUE-6 | JUNE-2017 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 78.46
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

Scientific evidence in the form of DNA Paternity test to prevail over presumption of law.

Forensic Science

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ABSTRACT

The maxim Pater est quem nuptiae demonstrant (The father is he, whom the nuptials indicate) has gained a sturdy legislative recognition which resulted in the formulation of the rule of evidence envisaged in Section 112 of the Evidence Act. There was a clash between the conclusive proof of legitimacy of child and the paternity test on the basis of DNA analysis. By the conclusive proof of legitimacy of child as envisaged under section 112 of Indian Evidence Act, the petitioner husband was concluded to be the father of girl child who was later held to be the legitimate daughter of the petitioner. However, on DNA analysis of blood samples of husband, wife and girl child, the petitioner husband was excluded to be the biological father of the girl. Under these circumstances, Hon'ble Supreme Court of India relying upon the scientific proof i.e. DNA analysis allowed the appeal of the petitioner husband granting him relief from payment of maintenance to his wife and daughter and held that proof based on scientific advancement accepted by the world community to be correct to prevail over a conclusive proof envisaged under law.

KEYWORDS:

Indian Evidence Act, DNA paternity test, Polymerase Chain Reaction, Capillary electrophoresis.

Introduction:

For establishing paternity of a person, DNA typing or profiling is the most reliable standard [1, 2, 5, 6]. Older methods like ABO blood grouping, proteins and enzymes analysis, human leukocyte antigen typing have limitations and therefore not useful for determining paternity [3]. Almost every cell in human body has the same DNA; therefore DNA in blood is identical to that in hair, semen, saliva, tissue, bone [4]. DNA profiling was developed in 1984 by British geneticist Sir Alec Jeffreys[7]. It was found that certain regions of DNA contained repeated DNA sequences. DNA regions with short repeat units (usually 2-6 base pairs in length) are called Short Tandem Repeats (STR). One of the first STR multiplexes developed was a quadruplex by Forensic Science Service (FSS) and comprised of four STR loci [10]. STR markers are effective in human identification as the number of repeats is highly variable among individuals and they are scattered throughout the genome [8, 9]. PCR amplification of multiple STR loci simultaneously or multiplexing, is possible with different colored fluorescent dyes and different sized PCR products which can be separated by means of capillary electrophoresis on 3130 Gene Analyser.

In the instant case, marriage between Petitioner Husband and Respondent Wife was solemnized at Chandrapur, Maharashtra. Soon after their marriage, they started living separately. Wife filed an application against her husband for maintenance under section 125 of Criminal Procedure Code, which was dismissed by the learned Magistrate. She again filed an application for maintenance for herself and daughter alleging therein that she had again started living with her husband and stayed with him for a period of two years during which she got pregnant. She was sent for delivery to her parents where she gave birth to a girl child. However, husband strongly denied the allegations of wife. He strongly asserted that he never had physical relationship with his wife after a short period of marriage and denied the girl child to be his daughter. However, the learned Magistrate was pleased to accept the plea of wife and by its order granted the maintenance at the rate of Rs.900/- to her and at the rate of Rs.500/- to her daughter. Husband filed the revision against this order, but High Court of Bombay rejected the revision.

Against these orders, husband preferred a Special Leave Petition in The Supreme Court of India. In his petition, husband strongly challenged the paternity of the girl child and prayed the Court to refer the matter for DNA paternity test. The Hon'ble Court then directed petitioner husband and his wife to undergo DNA paternity test and the laboratory was directed to submit the results of DNA paternity test to the court within four weeks. Blood samples of all the three were drawn and sent to Regional Forensic Science Laboratory, Nagpur. In the DNA paternity test report, husband was excluded to be the biological father of the girl child.

However, wife was not satisfied with the results of this laboratory. Aggrieved, she prayed for a re-test. Accordingly, the Supreme Court directed further DNA paternity test to be conducted at the Central Forensic Science Laboratory, Ministry of Home Affairs, Govt. of India, Hyderabad. Hyderabad based laboratory also came with the same results i.e. “Husband can be excluded from being the biological father of the girl child.”

DNA paternity test thus relieved the husband from payment of maintenance to the child he had not fathered.

Materials and Methods:

Sample collection:

Blood samples of husband, wife and girl child collected by medical officer were received in the DNA profiling division of Regional Forensic Science Laboratory, Nagpur, Maharashtra, India. Analysis was started after checking seals and labels of all exhibits.

Extraction of DNA:

From all the three blood samples, DNA was extracted organically using phenol chloroform extraction method.

Quantification:

Isolated DNA was quantified using 1% Agarose, 1X TAE buffer, ethidium bromide and bromophenol blue. The accurately quantified DNA was used for further analysis.

PCR based STR Analysis:

Extracted DNA samples were amplified by PCR to increase the quantity of DNA [11]. DNA amplification was performed using AmpFlSTR® Identifiler kit following manufacturer's user manual. Amplified products were separated and detected using 3130 Genetic Analyzer [12]. Simultaneous amplification of 16 STR Loci was completed and analyzed [13, 14].

Results and Discussions:

The DNA extracted from blood samples of 1) Wife, 2) Girl Child and 3) Husband was typed at 15 STR loci and gender specific Amelogenin locus using PCR Amplification technique (Table 1).

Table 1:

STR LOCUS	GENOTYPE		
	Wife	Girl Child	Husband
D8S1179	10, 13	12, 13	14, 16
D21S11	28, 32.2	28, 32.2	29, 29
D7S820	11, 12	10, 11	10, 10
CSF1PO	11, 12	12, 12	11, 12
D3S1358	13, 16	16, 16	15, 17
THO1	6, 6	6, 9.3	9.3, 9.3
D13S317	8, 11	8, 11	8, 11
D16S539	11, 12	10, 11	9, 12
D2S1338	18, 20	18, 18	18, 23
D19S433	13, 15.2	13, 15.2	13, 13
vWA	16, 17	16, 18	15, 17
TPOX	9, 9	9, 11	10, 11
D18S51	13, 15	14, 15	12, 14
AMELOGENIN	X, X	X, X	X, Y
D5S818	11, 12	10, 12	11, 15
FGA	20, 25	20, 22	20, 24

Out of 15 different genetic systems analysed with the PCR, Husband failed to match the obligate paternal alleles present in Girl Child at 7 STR loci.

On the basis of above observation, Husband was excluded from being the biological father of Girl Child.

Section 112 of Indian Evidence Act provides as under:

"The fact that any person was born during the continuance of a valid marriage between his mother and any man, or within two hundred and eighty days after its dissolution, the mother remaining unmarried, shall be conclusive proof that he is the legitimate child of that man, unless it can be shown that the parties to the marriage had no access to each other at any time when he could have been begotten".

Justice Chandramauli K. Prasad while delivering judgment noted:

As stated earlier, the DNA test is an accurate test and on that basis it is clear that the appellant is not the biological father of the girl child. However, at the same time, the condition precedent for invocation of section 112 of the Evidence Act has been established and no finding with regard to the plea of the husband that he had no access to his wife at the time when the child could have been begotten has been recorded. Admittedly, the child has been born during the continuance of a valid marriage. Therefore, the provisions of section 112 of the Evidence Act conclusively prove that respondent no: 2 is daughter of the appellant. At the same time, the DNA test reports, based on scientific analysis in no uncertain terms suggest that the appellant is not the biological father. In such circumstances, which would give way to the other is a complex question posed before us.

Section 112 of the Evidence Act was enacted at a time when the modern scientific advancement and DNA test were not even in contemplation of the legislature. The result of DNA test is said to be scientifically accurate. Although Section 112 raises a presumption of conclusive proof on satisfaction of the conditions enumerated therein but the same is rebuttable. The presumption may afford legitimate means of arriving at an affirmative legal conclusion. While the truth or fact is known, there is no need or room for any presumption. When there is evidence to the contrary, the presumption is rebuttable and must yield to proof. Interest of justice is best served by ascertaining the truth and the court should be furnished with the best available science and may not be left to bank upon presumptions, unless science has no answer to the facts in issue. In our opinion, when there is a conflict between a conclusive proof envisaged under law and a proof based on scientific advancement accepted by the world community to be correct, the latter must prevail over the former [15].

Conclusion:

DNA profiling is very accurate and confirmatory test for the identification of an individual. The allele that is absent in either parents cannot be present in the offspring. Consequent to this ruling of the Apex Court, in the cases of conclusive proof of legitimacy of child born out of subsisting marriage, the DNA paternity test report would become judicially acceptable and would be able to rebut the conclusive presumption envisaged under section 112 of the Indian Evidence Act. The DNA paternity test report of Regional Forensic Science Laboratory, Maharashtra has become an important instrument in delivering this landmark judgment.

Acknowledgement:

We are thankful to our Director, Directorate of Forensic Science Laboratories, Mumbai, Home Department, Government of Maharashtra, India for his guidance and encouragement all the time extended to us.

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