**Medical Jurisprudence: An Indian Law Perspective**

Introduction:

"Medicolegal" is the term, which incorporates the basics of two sister professions i.e. Medicine and Law. Everybody talks about the law but few, aside from lawyers, judges and law teachers, have more than the vaguest notion of what constitutes law. The average layman often has about as much accurate information about the law as he has about medicine-or life on Venus. And, unfortunately, two professional groups suffer from more ignorance of law and medicine than is good for them:

lawyers, at least those who do not constantly deal with medical issues in their legal practice, know very little about the medical profession and its problems; physicians frequently comprehend too little about the law and how it affects them in the practice of their profession. Medico legal experts can provide a link between these two professions for their smooth & effective functioning in a scientific manner. The physician meets the law at every turn. He confronts it when, as the treating doctor, he is subpoenaed as a witness in a personal injury lawsuit; he meets it when his aid is sought as an expert in connection with a claim that another member of his profession has been negligent and when he is faced in his office or clinic by a narcotic addict, a man with a gunshot wound, or a young couple seeking a blood test. He is face-to-face with the law when he is required to render an aggravating array of governmental reports or to preserve physical evidence for the benefit of a law enforcement agency. The physician, in fact, finds a great deal of the law intensely irritating, often because he is not absolutely clear as to its purpose.

The following subjects deal with all the above aspects of Law and medicine.

# Forensic Medicine

# Medical Jurisprudence

# Toxicology

Medical jurisprudence is the application of medical science to legal problems. It is typically involved in cases concerning blood relationship, mental illness, injury, or death resulting from violence. Autopsy is often used to determine the cause of death, particularly in cases where foul play is suspected. Post-mortem examination can determine not only the immediate agent of death (e.g. gunshot wound, poison), but may also yield important contextual information, such as how long the person has been dead, which can help trace the killing. Forensic medicine has also become increasingly important in cases involving rape. Modern techniques use such specimens as semen, blood, and hair samples of the criminal found in the victim's bodies, which can be compared to the defendant's genetic makeup through a technique known as DNA fingerprinting; this technique may also be used to identify the body of a victim. The establishment of serious mental illness by a licensed psychologist can be used in demonstrating incompetence to stand trial, a technique which may be used in the insanity defense, albeit infrequently.

Autopsy:

Autopsy is the systematic examination of a cadaver for study or for determining the cause of death. Autopsy means "see for yourself". It is a special surgical operation, performed by specially trained physicians, on a dead body. Its purpose is to learn the truth about the person's health during life, and how the person really died. Autopsies, also known as necropsies, postmortems, or postmortem examinations, use many methodical procedures to determine the etiology and pathogenesis of diseases, for epidemiologic purposes, for establishment of genetic causes, and for family counsel. There are many advantages to getting an autopsy. Even when the law does not require it, there is always something interesting for the family to know. Post-mortems may be performed at the request of the authorities in cases of unexplained and suspicious death or where a physician did not attend death. In other circumstances post-mortem examination may be performed only with the consent of the deceased's family or with permission granted by the person himself before death. These examinations are more frequently being used for the acquiring of organs and tissues for transplantation. Valuable medical information can be learned from a post-mortem examination. Legionnaire's disease, for example, was discovered as a result of autopsies, and improved safety standards have resulted from the examination of the bodies of crash victims.

The autopsy deals with the particular illness as evidenced in one individual and is more than simply a statistical average. Every autopsy is important to expose mistakes, to delimit new diseases and new patterns of disease, and to guide future studies. Morbidity and mortality statistics acquire accuracy and significance when based on careful autopsies. The autopsy procedure itself has changed very little during the 20th century. It is a detailed examination of a body and each of its part, not only superficially but also through various tests on tissue in labs. Its purpose is to learn the truth about the person's health during life, and how the person really died. Apparently, autopsies are being performed with decreasing frequently. Where earlier in the century as many as half of all bodies had autopsies performed, now only 5-10 percent of corpses undergo the procedure. Generally, an autopsy is only done when there is some cause of doubt as to the cause of death, although the family of the deceased can always request an autopsy even if the hospital doesn't think it necessary. The first step is a gross examination of the exterior for any abnormality or trauma and a careful description of the interior of the body and its organs. This is usually followed by further studies, including microscopic examination of cells and tissues. Then the pathologist proceeds to the dissection, which

DNA Fingerprinting:

DNA fingerprinting or DNA profiling or any of the several similar techniques for analyzing and comparing DNA from separate sources are used especially in law enforcement to identify suspects from hair, blood, semen, or other biological materials found at the scene of a violent crime. It depends on the fact that no two people, save identical twins, have exactly the same DNA sequence, and that although only limited segments of a person's DNA are scrutinized in the procedure, those segments will be statistically unique. The DNA samples of the culprit can be obtained from the scene of crime itself. For example

blood samples from a scene of murder or samples of seminal fluids deposited on the clothes or furniture or in the body of the victim of rape can be used to acquire a sample of the culprits DNA. These samples can be compared with those taken from a possible suspect in the case.

DNA evidence, apart from its use in criminal law to determine the killer or the rapist, is also employed for various other purposes. Amongst its varied applications, Paternity testing, Personal identification (of a mutilated body or skeletal remains), study of the evolution of the human population and study of inherited diseases like Alzheimers disease etc. are included.

The success rate in solving complex cases in Criminal Law has greatly increased after the discovery and use of DNA evidence technologies. The introduction of DNA evidence in the field of Criminal law has particularly facilitated convictions in the matters involving the offence of Rape.

Prior to the use of DNA evidence, matters involving the offence of rape could be solved primarily by circumstantial evidence only. It was very difficult for the victim of rape to prove the offence in the absence of either circumstantial evidence or an eyewitness, which was very rare. Since, the introduction of the DNA evidence, this has been greatly simplified. First samples of the seminal fluids found at the scene of crime by the investigating officer are analysed. If this is not available, then samples of the seminal fluid are extracted from the victims body itself. The DNA from this sample is then compared with the DNA sample taken from the accused. If the report establishes that these samples match, then this acts as evidence in the court proving rape.

As regards the offence of murder, DNA samples that are collected from the blood, mucous, saliva, skin, hair samples etc, found on the crime scene are employed to extract the DNA sample. This provides for a very effective technique to nail the culprit.

DNA testing should be viewed against the fact that the growing citizen concern over crime is not merely about mounting statistics. It is also over the detectives' inability to solve many gruesome crimes. The question that is often asked is how far the police are equipped to handle investigations using modern science and technology, and how far does the current law of evidence in the country recognize evidence gathered from such tests. There is more than a trace of popular cynicism over police willingness to spurn third degree methods in favour of scientific investigation. It is mainly in this context that many critics

of police performance raise the issue of DNA profiling frequently.

Apart from its use to nail the culprit, Post-conviction DNA Testing is also a very effective method to exonerate the innocent. The sophisticated technology makes it possible to obtain conclusive results in cases in which the previous testing had been inconclusive. Post-conviction testing will be requested not only in cases in which the DNA testing was never done but also in cases in which more refined technology may result in an indisputable answer.

The remarkable feature of DNA is that individuals leave at least traces of it almost everywhere. A few of the everyday objects handled by us, such as pens, telephones, mugs and keys are some of the things that require attention from a crime investigator. A variety of offences such as murder, rape, armed robbery; extortion and drug trafficking yield themselves to the application of DNA collection and testing. According to a study by the National Institute of Justice (NIJ) of the United

States' Justice Department, there are many unusual sources of DNA evidence that need to be explored by an investigator. These include saliva found on the flap of an envelope containing a threat letter, spittle collected from the sidewalk where a suspect in a sexual assault case was under surveillance and blood collected from a bullet that had injured an assailant himself in a case of murder.

Collection of samples at a scene of crime requires some skill and observance of basic rules of hygiene. There are two dangers here. One is that, as in the case of hand fingerprints, there is a distinct possibility of several persons having left their DNA behind in a scene of crime. The need, therefore, is to identify all visitors and collecting their samples also (apart from those of the victim/suspect). This assiduous process can try an officer's patience. Secondly, DNA samples are extremely susceptible to contamination. It is essential that the technicians collecting the sample adopt all precautions that a surgeon would while performing a critical surgery. Any slackness could render the entire operation wasteful and susceptible to easy picking of holes by the defense counsel during a trial.

Benefits of Medical Jurisprudence:

The introduction of medical jurisprudence has immensely benefited both the medical and the legal field of work. A better understanding and cooperation has resulted and has facilitated a smoother working of both disciplines.

Previously unsolvable cases are now solved with ease with the development of the field of medical jurisprudence. It covers in its ambit the provision of evidence for a wide range and scope of cases. It can be used to determine the Paternity of a child and also be employed in determining the identity of human bodies, which have been mutilated beyond recognition in accidents like bomb blasts, factory explosions etc. In the field of Evidence Laws, it can be appropriated to solve cases involving murder, rape etc. Medical jurisprudence techniques like autopsy can also be employed to discover important facts vital to the case after the person has died.

However, despite their vast benefits to the field of law, medical jurisprudential techniques are not treated as primary evidence till date. The present Indian Evidence Act continues to treat technical findings, such as the results of DNA tests, as expert evidence. This situation will continue till a legislation is drafted and enacted by the Parliament.

Under section 45 of the Indian Evidence Act, 1872, it has been, inter alia, provided that, when the court has to form an opinion upon a point of science, or art, or as to identity of handwriting or finger impression, the opinions upon the point of persons specially skilled in science or art or any question as to identity of handwriting or finger impressions are relevant facts and such persons are called experts. The expression opinions upon a point of science of persons specially skilled in science is capable of application to all future advances in science which enable an expert opinion on a point.

Due to the heavy misuse and lack of knowledge of the courts as regards scientific evidence, they are hesitant in applying these techniques. In order to determine whether scientific evidence is admissible, the court may consider-

(1) whether the principle or technique has been or can be reliably tested,

(2) whether it has been subjected to peer review or publication,

(3) its known or potential rate of error,

(4) whether there are standards or organizations controlling the procedures of the technique,

(5) whether it is generally accepted by the community, and

(6) whether the technique was created or conducted independently of the litigation.

The situation appears hearty only as regards autopsy reports, which have been given the status of documentary evidence under the Indian Evidence Act. The merit attached to them, however, remains subjective and varies from case to case. The complete benefit of these medical jurisprudential techniques can be enjoyed only by an enactment recognizing these techniques as primary evidence, giving it the credit it deserves.