Forensic Medicine

TEXTBOOK

Second edition

APPROVED
by the Ministry of Education and Science of Ukraine
as a textbook for students of higher educational
establishments — medical universities, institutes
and academies

RECOMMENDED
by the Academic Council of Bogomolets
National Medical University as a textbook for
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The textbook briefly highlights both the history of forensic medicine and organization and arbitration principles of forensic medical examination. Forensic and medical thanatology issues as well as diagnostics of various environmental injuries and health conditions are scrutinized in view of current scientific advancements.

The data on larger radiation injuries and information on biological factor influence on the human body are introduced.

Peculiarities of examining the injured and accused parties and other persons are described according to the Criminal Code of Ukraine.

Current possibilities of forensic medical examination of material evidence are considered.

Legal aspects of health care provision and legal responsibilities of physicians as health care providers for malpractice are provided according to the Criminal Code of Ukraine.

All the chapters end with a list of questions for self-control.

For students of higher medical educational establishments, as well as for internship doctors and beginners at forensic medical expert examination.

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I. Definition, Contents, Tasks and Role of Forensic Medicine.

1.1. Definition, Contents, Tasks and Role of Forensic Medicine.

When investigating some cases connected with endangering health and especially life of a person, issues of medical and biological nature are sure to appear. These are the questions, which forensic medicine deals with. Forensic medicine is a medical science that generalizes not only medical knowledge but also knowledge of law.

The term “forensic medicine” was first used in the work of J. Bonn “Specimen medicinae forensis” in 1690.

Forensic medicine is a branch of medical science, which studies issues of medical, biological and medical-criminal nature for the purposes of justice, legislation and health care.

The notion of “forensic medicine” differs from “forensic medical examination” because forensic medical examination means practical use of scientific forensic medical data at the request of law-enforcement bodies or court.

The main task of forensic medicine and forensic medical examination is assisting justice in investigating crimes against life and health of persons by means of scientific development and practical solution of certain issues of medical and biological nature.

Most often forensic medical examination has to find answers to such questions as the cause of death, prescription of death coming, presence of injuries and
their severity, trauma mechanism, possibility for the person to fulfill any purposeful actions after getting injured, and category of death. However, the list of questions, which must be answered during a forensic medical examination, depends on the specific case under consideration.

Moreover, forensic medical examination as a branch of medicine helps healthcare institutions to improve the level of their treatment and prevention of diseases.

Collaboration of forensic medical examination and healthcare institutions is realized by analyzing the cases of sudden death, lethal injuries caused by vehicles, household and industrial poisoning, medical practice. Another important task of forensic medical examination is provision of transplantation material as well as prevention of alcoholism, drug addiction and toxicomania.

1.2. HISTORIC OVERVIEW
OF FORENSIC MEDICINE DEVELOPMENT

Forensic medicine appeared due to the needs of the law science, court procedure and state administration.

The first forensic medical data can be found in ancient times. As early as 3000 years BC Imhotep, doctor of the Egyptian pharaoh, performed both duties of doctor and judge at the same time.

The code of law created by Babylonian king Hammurabi (2200 BC) was the first to include some regulatory norms that dealt with medicine, rights and duties of doctors as well as control of their activity. If a doctor was guilty of his patient’s death, he was subject to criminal responsibility.

If a pregnant woman in Mesopotamia committed a murder, she was released from death penalty. In this case the fact of her being pregnant had to be proven by priests, doctors and midwives.

In Ancient Greece Hippocrates (460—355 BC) studied some issues of traumatology, sudden death and deontological ethics.

In Ancient Rome midwives testified in court concerning pregnancy, abortions or deliveries. In 499 BC a code was published which, among other things, dealt also with the duration of pregnancy, and those data were used in legal proceedings.

In 44 BC Emperor Julius Caesar was killed in Rome, and his dead body was examined by the court doctor Antistius, who found 27 stab wounds on the corpse but declared only one of these stabs to be lethal, it was the wound in the chest cavity.

In the manuscripts of Moses, Talmud (1st century BC) it was already written in much detail that doctors had to take part in solving questions concerning the term of conception, peculiarities of injuries, etc.
But it would be wrong to state that forensic medical examination really existed in those ancient times because back then there was neither forensic medicine nor doctors involved in this activity.

During the reign of Emperor Hadrian (1st century BC) Roman doctors had already begun to participate in legal proceedings.

The famous “Corpus Juris Civilis” by Justinian I (529–534 AD) emphasized the special role of doctors in legal proceedings, “Doctors are not witnesses, but they are rather judges than witnesses”.

In Early Middle Ages forensic medicine stopped developing because judicial proceedings at that time boiled to the contest of opposing parties (so called “Field) or ordeal with fire and sword (so called “Dei Judicium”).

Asian countries (China, Japan, Korea) were exceptions because forensic medicine began developing in the 13th century there. In 1247 the work in forensic medicine “Collected Cases of Injustice Rectified” by Song Ci was published in China and dealt with the issues of diagnosing the cases of violent and sudden death. This work was the first to describe postmortem lividities, postmortem rigidity, signs of death caused by a lightning stroke, the procedure of corpse examination, and those areas on a human body were also described, which, when injured, can cause death.

Starting with the 13th century doctors in Europe began to be consulted with during judicial proceedings more and more often. For example, Pope Gregory III pointed at the exclusive role of doctors when cases of injuries were tried. Violent death had gotten to be studied both in medical and legal aspects.

The first criminal code in Medieval Europe, in which forensic medical aspects were fixed legally, was “Constitutio Criminalis Bambergensis” (1507).

The kings of France had a surgeon, who was often invited to the court of Paris to give explanations.

Scientific forensic medicine in Europe (Germany) came into existence due to Emperor Charles V, who introduced in 1532 a criminal code known as “Lex Carolina”. According to this code courts were obliged to invite doctors to examine corpses, persons with physical injuries, and in the cases of child murder, poisoning, medical malpractice, etc. This code stimulated the development of forensic medicine and scientific research of forensic medical nature.

The first reference book in forensic medicine was written by French surgeon Ambroise Pare (1517–1590), in which he described examination of impotence, bodily injuries, child murder, investigation of wounds, some issues of diagnosing mechanical asphyxia, poisoning with carbon monoxide and so on. Works of Phidelius (1602) on medical conclusions and embalming of dead bodies played an important role too because they contained some information concerning different questions of forensic medicine.