Konoval N.

CRITERIA FOR FORENSIC MEDICAL DETERMINATION OF THE TIME SINCE DEATH AS PER ARCHIVE RECORDS OF KHARKIV REGIONAL BUREAU OF FORENSIC MEDICAL EXPERTISE

Kharkiv national medical university
Forensic Medicine, Medical Law
Kharkiv, Ukraine

Research advisor: prof. Olhovsky V.A.

Introduction. Determination of the time since death (TSD) is one of the main aspects of forensic medical examination. Combination of external and internal factors affecting the body in postmortem period complicates the process of TSD determination, which stipulates the relevance of the issue.

Matherials and methods. The archive records of the department of forensic medical examination of KRBFME for 2017 were the subject of investigation. There was a registration card for each case, which included passport data, general information on the TSD, studies of cadaveric changes during forensic medical examination and determination of the TSD with additional high-tech methods.

Results. The study involved the assessment of 56% of forensic examinations for 2017, 18% of which were violent deaths, 78% non-violent deaths and 4% cases with an unidentified cause of death. The analysis showed that the investigative bodies went to the scene in 100% of cases; however, only in 29% of cases investigators ordered to provide a protocol of the corpse inspection at the place of its detection. Cadaveric phenomena were recorded in 98% of the provided corpse inspection protocols drawn up at the site of corpse detection, of which 24% contained information on the air temperature surrounding the corpse. The issue of the TSD was set by the investigative bodies in 82% of decisions on the appointment of forensic medical examination, including 17% cases of violent death, 80% of non-violent deaths and 3% of cases with an unidentified cause of death. In 22% of the analyzed cases, forensic medical experts determined the TSD only by the data of corpse inspection protocol drawn up at the place of corpse detection. Besides, 17% of the expert's conclusions were based on the results of the study performed in the sectional room and only 1% of all the cases were based on the data of corpse examination at the site of its detection and in the sectional room. In 14% of cases the TSD was not determined and the experts provided explanation, motivating the impossibility to answer the question. In 45% of cases, the experts left the question of the TSD unanswered in the conclusions, motivating it by the absence of a copy of the corpse inspection protocol at the place of its detection. In 2% of cases the TSD was recorded by medical workers.

Conclusion. The study showed that the conclusions in which experts provided an answer concerning the TSD according to the results of the autopsy were based only on the data of the external examination of the corpse. All the analyzed cases did not imply any additional high-tech research methods that could improve the accuracy of the TSD determination. The analysis shows the necessity

to search for new criteria for TSD determination and to improve the methodology for its determination.

Litvinova M.

THE WAY OF ACTIVATION OF THE COMPLEMENT SYSTEM IN CASE FOR ASEPTIC INFLAMMATION IN RATS

Kharkiv national medical university
Department of Physiological Pathology
Kharkiv, Ukraine
Research advisor: prof. Pavlova O.O.

Introduction. Well-known fact, that inflammation is universal, stereotyped, phase - developing pathological process, the basis of which is the reaction of cells of mesenchymal origin, local and circulating mediators. Inflammation is characterized by the cascade activation of various systems, participating in its development and, first of all, the complement system (SC), a humoral system of innate immunity. It is assumed, that in immune inflammation the SC is activated by immune complexes with the participation of immunoglobulins M and G, a special protein MBL, bacterial and plant polysaccharides, etc.

Materials and methods. Based on the foregoing, it is of interest to enucleate the main pathway of SC activation in rats with aseptic inflammation. The model of inflammation was acute aseptic peritonitis caused by intraperitoneal injection of 5 mg of ƛ-carrageenan dissolved in 1 ml of isotonic sodium chloride solution. Determination of SC activity was carried out according to a standard procedure.

Results. Before the beginning of the experiment, the activity of SC in the rats of the study group did not differ from that of the control group, while on the third and sixth days after the reproduction of peritonitis, the dynamics of SC activity in the rats of the study group was significantly increased by 2.2 times ($p < 0,05$) (day 3) and - 1,14 times (6th day), respectively, which was higher than those controls. The peak of SC activation occurred on the 3rd day, and apparently is realized by an alternative pathway of activation, in which there is no need for the presence of immune complexes (the formation of which requires at least 6 days), as in the classical SC activation pathway.

Conclusion. Therefore complement performs template recognition , and the membrane structures of the microenvironment cells of the focus of inflammation change, to prevent the complement of mediated autoaggression, the cellular mechanisms inactivating SC are included, which in our study indicates reduction CK activity on the 6th day.