

Study on Quality Control of Forensic Toxicology Identification

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Abstract. Forensic toxicology evaluation is an important content of judicial appraisal, the appraisal result directly affects the quality and the accuracy of case detection and justice, but the current domestic forensic toxicology evaluation in terms of quality control, is still in use the old rules and regulations, and alcohol appraisal, despite its relatively mature and perfect system, but also there are some problems in terms of technology and institution. Alcohol judge professionalism is uneven, these reasons led to the forensic identification of quality control, the low efficiency of poison, for this reason, this paper proposes perfecting the forensic identification of alcohol quality control specification, enhance the level of forensic alcohol identification technology and strengthening construction personnel appraisal of the three ways to improve the level of the quality control of forensic toxicology evaluation, We should give full play to the practical role of forensic toxicology identification and promote the construction of socialist rule of law.

Keywords. Forensic medicine; Toxicological identification; Identification technology

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1. Introduction

Forensic toxicology evaluation mainly for drug and alcohol testing, plays an significant role in the judicial practice, but modern society human body resistance, complex rising levels of toxins in the body, so has a big headache on appraisal of forensic toxicology, coupled with professional ability in forensic toxicology evaluation of technical level and factors such as limit, forensic toxicology appraisal quality control is imminent. The rapid development of modern identification and testing methods has provided opportunities for the quality control of forensic toxicology identification. How to grasp the core of technology and combine technology with toxicology identification has become the main problem to be considered in the development of forensic toxicology identification in the new era.

2. The main content of forensic toxicology identification

The paper should be written in English, and should be composed of title, author(s), abstract, keywords, introduction, main body (such as Literature Review , Methodology, Analyze, Result, etc.), conclusions, acknowledgement, references, and appendix. Paper size is US Letter (8.5" × 11" or 21.59 cm × 27.94 cm). All margins-top to 3.5 cm, bottom, left, and right-are set to 2.5 cm). The paper must be single column, single spaced. The font should be formatted in Times New Roman, 11 pt., except for special symbols and mathematical equations.

Forensic toxicology is the study of poison source character, into the body way analysis, separation and poisoning mechanism, lethal concentration (amount), metabolism and excretion of problems such as a discipline, its main task is to each kind of case in practice (matter) may be involved in analysis of the identification of drugs, identifies the presence of toxic poison, poison properties, content and poison the relationship with events, etc., is involved To provide clues or evidence for the investigation and trial of toxicant cases.

The development of modern medicine and chemistry has greatly increased the possibility that modern people are harmed by toxic and harmful substances. As a forensic toxicological identification mainly for alcohol and drug detection, it is one of the most critical contents to accurately determine the type of drugs from which alcohol comes. In terms of importance, the necessity of quality control of forensic toxicological identification is reflected in two aspects:

First, by checking test results positive increase in the number of ways, forensic toxicology evaluation is mainly responsible for alcohol and drug test on the human body, but modern drinks, food development makes a number of cases, checked by itself is not drinking, but the ability to measure certain elements in the body's blood alcohol content, the judicial judgment plays a misleading, So forensic toxicology is needed to provide more accurate identification.

Secondly, the technical methods of forensic toxicological identification are constantly updated. From around the world, forensic toxicology evaluation method of technology is in constant updates, modern chemical biology can be applied to the identification of forensic technology more and more, and with the emergence of judicial authentication social tide, the accuracy of judicial appraisal results challenged, different appraisal agencies to issue different appraisal result, causes the judicial decision is difficult, Therefore, it is more necessary to establish standard identification quality standards, to regulate the entire judicial identification industry, so that judicial identification play a positive role. Moreover, forensic toxicology testing results as an important reference cases and judicial decisions of evidence, the identification of the higher quality, can play a role is more significant, but the current domestic actual forensic toxicology evaluation still exist many problems, so you need to take forensic toxicology appraisal method of quality control, change the status quo and make due contributions to the socialist rule of law.

3. Problems existing in quality control of forensic toxicology identification

The development process of quality control of forensic toxicology identification is not long, especially the forensic medical system, the construction of forensic medical team and the technical level of forensic toxicology identification limit the effectiveness of quality control, resulting in the following three problems:

3.1. The construction of rules and regulations is imperfect

The lack of perfect rules and regulations of forensic poison identification is the fundamental problem existing in the quality control of forensic poison identification in China. The purpose of forensic poison identification is to provide evidence with legal effect for law enforcement agencies and judicial institutions, and provide more accurate reference for judicial and law enforcement. However, the construction of relevant laws and regulations of forensic medical identification in China is not perfect, and the industry norms and supervision and management system in the industry are also lacking, which greatly reduces the judicial reference role of forensic medical identification. In addition to the high objectivity of forensic results provided by the free forensic medical department of the public security organ, In order to make profits, the judicial appraisal institutions in the market will provide the appraisal reports that the clients want, which greatly reduces the objectivity of the appraisal results. In court hearings, the two parties often provide two appraisal reports with completely different results, which leads to a deadlock in judicial trials. This is caused by the lack of perfect rules and regulations, because there are no laws and regulations on the appraisal process, appraisal unit qualification, appraisal method and appraisal results review to be stipulated, the industry is also lack of supervision and management institutions, so the social judicial appraisal units can arbitrarily create "appraisal

garbage", interference with the judicial process, The only way to solve this problem is to perfect the system and nationalize the appraisal institutions.

3.2. The technical level is not advanced enough

Despite the worldwide forensic toxicology evaluation of technical level, but is applied to the domestic some insufficient, the people more widely in our country, contains 34 provinces population of one billion four hundred million, need to identify the forensic poisons work every day is very huge, and forensic toxicology evaluation in order to achieve high accuracy, tends to adopt more complex biochemical method, It takes a certain reaction time to get the results, so in general, the forensic toxicological identification resources in China are seriously insufficient, and the identification technology level is not advanced enough. For the appraisal of alcohol, although widely used method in our country is relatively mature, but because of the high alcohol metabolism in human body, and material metabolism have no special material can be used to identify, so makes the more alcohol technology does not have universal applicability, be badly in need of a quick determination of alcohol content and drinking roughly the technology of the time.

3.3. Inadequate appraisers

Compared to Japan, South Korea and other countries, the total number of forensic and many in our country, but to each region of the forensic more rapid decrease, and this among them, there is no lack of some level is insufficient, the professional quality is not high, only the forensic as a breadwinner job people exist, although these are a few, but most of our forensic team is professional basic standards, The personnel who can carry out forensic toxicological identification do not have excellent identification ability and positive identification quality consciousness. Most of the alcohol examiners in China are traffic police, who conduct alcohol identification on drivers while on duty and traffic police conduct alcohol identification in accidents. Then there are the doctors in the hospital, who are not professional forensic experts and lack expertise in the results and methods of identification, and are greatly affected by the identification technology, so that the on-site identification ability of the identification personnel is insufficient.

4. Quality management measures for forensic toxicology identification

In view of the above problems in the quality control of forensic toxicology identification, this paper puts forward the corresponding quality management measures, including the construction of rules and regulations, improving the technical level and strengthening the construction of forensic medical team.

4.1. Construction rules and regulations

Regulations for forensic toxicology should consist of three main sections. First, the qualifications of the appraisal agencies need to be regulated, so that it is clear which institutions have the authority to conduct judicial appraisals, and that the appraisal results issued by other institutions are not given judicial value. Therefore, it is necessary to build a large number of state-owned forensic appraisal institutions to provide low-cost and objective forensic appraisal results for the public. Secondly, specification of toxicant identification process, the country needs according to the actual working status of the current forensic toxicology appraisal make different toxicant identification process, including appraisal application submission, service and management, appraisal process supervision and management and the examination and approval and delivery of the appraisal result, formulate well-defined processes by laws and regulations, safeguard forensic toxicology evaluation in accordance with the implementation process, Ensure the quality of forensic toxicology tests. Third, the liability mechanism of forensic toxicology means that the responsibility of forensic toxicology is assigned to individuals, and forensic medical experts should bear legal responsibility for the results of forensic medicine. Once the results of forensic medicine are fabricated, forensic medical experts

should be held accountable in accordance with the law. The accountability mechanism can enhance the importance of forensic medicine on the results of toxicological identification, and dare not fabricate the identification report at will.

4.2. To upgrade the technical level of forensic toxicological identification

Under the trend of nationalization in judicial appraisal, forensic toxicology appraisal agency, unite by the country construction and implementation of technology management, this can effectively avoid market appraisal appraisal organization technology gap problem, by the national related units to introduce foreign advanced forensic toxicology identification technology, and implement the national promotion, It can effectively improve the technical level of domestic forensic toxicology identification. Therefore, it is very important to establish nationalized forensic identification institutions, which is an important measure to improve the quality of forensic toxicology identification and an inevitable trend of long-term development of forensic identification.

4.3. We will strengthen the team of forensic doctors

Forensic toxicology identification is closely related to the professional level of personnel, so it is necessary to strengthen the construction of forensic personnel, strengthen the entry examination of toxicology identification personnel, and investigate their professional ability and ideological and moral level. In the process of forensic toxicology identification, it is also necessary to constantly strengthen the training and construction of talents, carry out regular training on forensic toxicology identification, teach new methods and technologies, improve the professional level of forensic medical team, and enhance the effectiveness of forensic toxicology identification. At the same time, improve the welfare treatment of forensic medical personnel, because the limited number of grassroots forensic medical personnel in China, the workload is large, and the low income will lead to the decline of the quality of forensic toxicology identification, so the use of high salary as an incentive mechanism can promote the improvement of the quality of forensic toxicology identification.

5. Conclusion

In all, forensic toxicology evaluation is an important content of auxiliary judicial and law enforcement, but due to the technical level and researchers, system and other reasons, the domestic forensic toxicology appraisal quality still exist larger progress space, therefore, need to adopt a more diversified forensic toxicology appraisal quality control measures, promote the judicial authentication institutions, So as to improve the level of forensic toxicology identification and promote the construction of socialist rule of law.

Conflicts of Interest

The author(s) claim that there is no conflict of interest.

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