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FEATURES OF STRUCTURING A FORENSIC VETERINARY DIAGNOSIS OF INJURIES CAUSED BY SHARP INSTRUMENTS

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Abstract. *The paper reveals the features of structuring a forensic veterinary diagnosis of injuries inflicted by sharp instruments. A definition of the term “forensic veterinary diagnosis” is formulated, the content of which lies in the determination of the essence of an injury (disease) compiled by a forensic veterinary expert based on the results of a detailed forensic veterinary examination of a live animal or an animal corpse. Such a diagnosis characterizes the essence of the trauma (disease), reflecting its nosology, etiology, and mechanism of formation in accordance with the classifications and terminology established in veterinary medicine.*

It is substantiated that, when formulating a forensic veterinary diagnosis for injuries caused by the action of sharp instruments, a generally accepted three-part, rubricated structure is used, which includes the primary injury, its complications, and concomitant injuries or conditions. The rubrics of the forensic veterinary diagnosis are intended to document these components in the form of nosological forms (entities).

It was demonstrated that a nosological entity denotes a specific injury (disease) defined on the basis of established data on its etiology, pathogenesis, or mechanism. It is characterized by a set of clinical, laboratory, and instrumental diagnostic features that make it possible to clearly distinguish the injury and classify it into an appropriate group of conditions with similar etiology and pathogenesis.

An algorithm for describing the primary injury in animals traumatized by sharp instruments during the formulation of a forensic veterinary diagnosis has been developed. This will contribute to compliance with the principles of formulating a forensic veterinary diagnosis, which should fully reflect all pathological conditions and comply with the nosological, intranosological, pathogenetic, dynamic, and structural principles.

It has been proven that a unified structure of the forensic veterinary diagnosis ensures proper statistical recording in forensic veterinary expertise.

The main requirements for a forensic veterinary diagnosis are outlined as follows: nosological certainty (including the name of a specific injury in accordance with forensic veterinary or veterinary classifications); accurate reflection of the essence of the injury (disease); completeness, objectivity, validity, correctness, truthfulness, reliability, and specificity; as well as effectiveness in formulating final conclusions in the expert's report without the use of abbreviations or contractions.

Keywords: forensic veterinary examination, injuries, sharp instruments, diagnosis

Forensic expert activity is regulated both in Ukraine and in other countries of the world (Munro, 2022; Monsalve, 2021; Cooper, 2021; Parry, 2020). At the same time, in domestic forensic veterinary expertise, the process of forming theoretical foundations, developing expert methodologies, and other didactic tools is still ongoing. Currently, the arsenal of forensic veterinary expertise has been significantly enriched by modern scientific research (Kozachok, 2025; Shkundia, 2024; Yatsenko, 2024; Kazantsev, 2024; Lemishevskiy, 2021).

Veterinary forensics in foreign countries is actively developing as an independent field of veterinary medicine, which is largely driven by increased awareness of animal cruelty and the establishment of a link between such acts and violence against humans (Lorsirigool, 2025; Caldwell, 2025; Oellig, 2024; Monsalve, 2023; Bartelink, 2022; Smith-Blackmore, 2021; Rebollada-Merino, 2020; Stern, 2021; Munro, 2022).

The approach to formulating clinical, pathological, and forensic veterinary diagnoses is reflected in the scientific works of foreign and Ukrainian scholars, including: comparison of clinical and pathological diagnoses in cats and dogs (Schertenleib, 2017); autopsy using as a means of quality

control of clinical diagnoses (Hugen, 2023); post-mortem clinical pathology in cattle as an additional tool for the veterinary pathologist (Wolf, 2021); post-mortem diagnoses in South American camelids and factors influencing diagnostic accuracy (Clarke, 2022); computed tomography of various animal species as an additional diagnostic tool in clinical and forensic veterinary practice (Heng, 2022, Grela, 2021, van Bruggen, 2022, Kot, 2022).

Ukrainian scholars have paid attention to the issue of establishing a forensic veterinary diagnosis. Thus, Yatsenko (2022) discusses the problems of drafting an expert conclusion based on the results of a forensic veterinary examination of a live animal, emphasizing that one of the sections of the conclusion is the forensic veterinary diagnosis. Kazantsev (2024) provided a thanatognomonic substantiation of the forensic veterinary diagnosis in cases of death of dogs and cats due to hemodynamic disorders and hypoxemia. Yatsenko (2023) offered a theoretical justification and outlined the praxeological significance of the stages of forensic examination of a live animal, one of which is the establishment of a forensic veterinary diagnosis. However, scientific research still insufficiently addresses issues related to the specifics of formulating a forensic veterinary diagnosis in cases of injuries caused by sharp instruments. Therefore, the existing developments do not fully meet the needs of forensic veterinary practice.

However, inaccuracies in the formulation of a forensic veterinary diagnosis are not uncommon. This is due, in particular, to the lack of standardized examples of its wording, as well as to the insufficient number of specialized publications aimed at addressing this problem. Consequently, diagnostic errors, both in clinical and forensic veterinary practice, lead to incorrect choices of treatment tactics and flawed analyses when solving diagnostic and expert situational tasks, as confirmed by relevant observations reported by Daly (2023), Cohen (2023), and Gartrell (2021).

The implementation of artificial intelligence tools in veterinary medicine has contributed to a significant increase in the speed, accuracy, and efficiency of diagnostics in such areas as radiology, ultrasonography, computed tomography, and magnetic resonance imaging (Rubini, 2025; Burti, 2025).

The specifics of formulating a forensic veterinary diagnosis in cases of injuries caused by sharp instruments are only partially addressed in regulatory documents, rules, and methodological guidelines, which does not meet the current needs of forensic veterinary practice. This leads to the subjective nature of establishing a forensic veterinary diagnosis, errors in determining the severity of bodily injuries, and inaccuracies in identifying animal mutilation.

Thus, the problem of formulating a forensic veterinary diagnosis, including in cases of injuries caused by sharp instruments, has not yet received sufficient attention among a broad range of Ukrainian researchers, which, on the one hand, emphasizes its relevance and, on the other, indicates the need for active scientific investigation. The absence of a legally approved proprietary terminological framework in forensic veterinary expertise, including principles for formulating a forensic veterinary diagnosis, negatively affects forensic expert practice. This manifests in errors in determining the severity of bodily injuries, defects in establishing mutilation, miscalculations in determining causal relationships between injury and health disorder or death of animals, and the emergence of other related problems.

The aim of the study is to identify the features of formulating a forensic veterinary diagnosis in cases of injuries caused by sharp instruments, to reveal problematic issues, and to demonstrate ways to resolve them.

Materials and methods. The methodological framework of the study is based on a systemic approach that corresponds to the specifics of the research topic and involves the use of both general scientific and special scientific methods, including:

– *analysis* – this method facilitated the decomposition of the complex concept of animal health impairment or causes of death into individual components. This made it possible to examine each element in detail, determine its essence, and assess its influence on the formulation of a forensic veterinary diagnosis;

– *synthesis* – this method made it possible to generalize the findings and to construct a logical mental operation consisting in combining individual elements and features of a disease or injury into a single coherent concept (diagnosis, conclusion);

– *analogy* – used to compare and identify similarities in the features of injuries or diseases based on certain characteristics for the purpose of formulating a forensic veterinary diagnosis;

– *idealization* – applied for the mental construction of a forensic veterinary diagnosis based on a sufficient set of identified injury features;

– *logical–semantic method* – allowed, taking into account current forensic veterinary practice, the determination of the essence of the concept and the development of an original interpretation of the term “forensic veterinary diagnosis”;

– *formal–logical method* – used to organize the headings and sections of a forensic veterinary diagnosis;

– *system–structural method* – contributed to structuring the sections of a forensic veterinary diagnosis;

– *forecasting* – used to predict the future structure of a forensic veterinary diagnosis;

– *concretization* – applied to уточнення, detailing, and providing specific characteristics of the sections of a forensic veterinary diagnosis by moving from the general to the specific;

– *modeling* – necessary for predicting, developing, and improving the sections of a forensic veterinary diagnosis through the creation and analysis of their models.

The empirical basis of the study consists of an analysis of forensic veterinary expert reports compiled between 2010 and 2025. These reports were prepared by specialists of the Bureau of Forensic Veterinary Research of the Kharkiv State Zooveterinary Academy and the National Scientific Center “Hon. Prof. M. S. Bokarius Forensic Science Institute” of the Ministry of Justice of Ukraine.

Results and Discussion. One of the key indicators of the professional competence of a forensic veterinary expert is the ability to accurately formulate a forensic veterinary diagnosis that meets current scientific and practical requirements. This involves constructing the diagnosis on the basis of etiological, pathogenetic, and pathomorphological principles, as well as using up-to-date classifications of diseases and injuries.

The authors are convinced that a unified approach to the formulation of forensic veterinary diagnoses should be introduced in Ukraine.

A clear, logical, and consistent formulation of a forensic veterinary diagnosis based on a comprehensive analysis of individual injury patterns caused by sharp instruments reflects a high level of professionalism of the forensic veterinary expert. It also ensures the possibility of comparing the results of clinical examination of an animal during life with the findings of a forensic veterinary examination of its corpse in the event of a fatal outcome.

A forensic veterinary diagnosis in cases of animal injuries caused by sharp instruments belongs to morphological diagnoses and is based on the morphological manifestations of pathological processes. The main task of the forensic veterinary expert is to establish the underlying (primary) and the immediate cause of the animal’s death. To this end, it is necessary to ensure a mandatory etiopathogenetic link between the identified pathomorphological changes resulting from injuries to the animal’s body and its death, which is reflected in the forensic veterinary diagnosis.

It should be emphasized that scientifically substantiated approaches to diagnosis are not fixed dogmas. They dynamically evolve in accordance with the development of expert knowledge and a deeper understanding of the causes, course, and consequences of diseases.

The formulation and compilation of a forensic veterinary diagnosis make it possible to concisely reflect the key aspects identified during the examination of an animal or an animal corpse. This demonstrates the relationship between the cause of death and injuries inflicted by sharp instruments. Such an approach also facilitates the subsequent preparation of a well-founded expert conclusion based on the results of a forensic veterinary examination of a live animal or a corpse in which signs of violent or sudden death have been identified.

A forensic veterinary diagnosis is formulated on the basis of the results of a forensic veterinary examination, which relies on the analysis of identified clinical signs or pathomorphological changes or injuries recorded during the examination of a live animal under expert assessment or its corpse. It is established, in particular, in cases of violent death that may be caused by the action of external etiological factors, including sharp injuring instruments.

Ultimately, based on a theoretical analysis of scientific sources, the authors’ own research, and practical experience in forensic veterinary practice, it is possible to propose an original definition of the concept of a **«forensic veterinary diagnosis»** (from Greek *diagnosis* — recognition: *dia* — apart, *gnosis* — knowledge). It is defined as a structured logical generalization by a forensic veterinary expert of the essence of an injury (disease) associated with violent actions against an animal—the object of forensic expert examination—expressed through the determination of its nosology and etiology; the mechanism, timing, sequence, and ante-mortem or post-mortem origin of its formation; the degree of severity; causal relationships; and the identification of complications, concomitant, and background pathologies, based on the results of a detailed forensic veterinary examination of a live animal or an

animal corpse, in accordance with the classifications and nomenclature of injuries and diseases adopted in veterinary medicine».

A forensic veterinary diagnosis represents the final stage of a clinical forensic veterinary examination of a live animal or the final stage of a pathomorphological forensic veterinary examination of an animal corpse. It cannot be replaced by a mere listing of syndromes or symptoms of a disease (injury).

Structure of the Forensic Veterinary Diagnosis. For the formulation of a forensic veterinary diagnosis in cases of injuries caused by the action of sharp instruments, a generally accepted three-part, rubricated structure is used, which includes the primary injury, its complications, and concomitant injuries or conditions. The rubrics of the forensic veterinary diagnosis are intended to document these components in the form of nosological forms (units). They may be designated by numbers and/or letters. A nosological unit denotes a specific injury (disease) determined on the basis of established data on its etiology, pathogenesis, or mechanism. It is characterized by a set of clinical, laboratory, and instrumental diagnostic features that allow the injury to be clearly identified and classified into an appropriate group of conditions with similar etiology and pathogenesis.

The primary injury caused by sharp instruments represents a nosological unit that includes the trauma with the most pronounced manifestations and constitutes the main cause of health impairment (traumatic disease), poses a threat to the life and health of the animal, and may become the primary (initial) cause of death.

It is this diagnosis that the forensic veterinary expert indicates in the first rubric. At the same time, the primary cause of health impairment or death of an animal often serves as the basis for the development of complications that directly lead to a fatal outcome. For example, an incised wound may result in the development of phlegmon and subsequently sepsis, which ultimately becomes the cause of the animal's death.

The primary nosological unit of trauma may independently, without the development of complications, lead to the death of an animal and at the same time act as both the primary and the immediate cause of the fatal outcome. Such cases include, in particular, mechanical injuries inflicted by sharp instruments that are incompatible with life, for example, separation of the head from the trunk or extensive destruction of brain tissue; severe damage to vital organs (e.g., multiple stab or incised wounds of the heart, liver, etc.).

The primary injury is a nosological unit or syndrome that determines the development of a terminal condition and defines the mechanism of death. Such injuries may include gross destruction of the body or its individual parts, damage to organs or vital body systems, as well as immediate complications such as acute blood loss, embolism, aspiration of blood into the respiratory tract, and others.

The underlying cause of death may be defined as a primary injury that initiated a series of pathological processes ultimately resulting in the animal's death; the primary injury in the case of a monocausal diagnosis; or the nosological unit listed first within a complex primary disease.

The immediate cause of death indicated in the diagnosis refers to the morphological changes in organs that led to the development of irreversible functional disorders and the cessation of the animal's vital functions. The immediate cause of death may be either the primary injury itself or its complications, which represent the final stage in the sequence of pathological processes that resulted in a fatal outcome.

A combined primary injury occurs in cases where the main cause of injury is represented by two different nosological units, for example, a combination of injuries inflicted by sharp instruments and thermal injury, or two different types of trauma. When formulating a forensic veterinary diagnosis, the first rubric of the primary injury is designated as a combined primary injury. This is followed by the formulation of one of the possible variants: competing conditions, concomitant (combined) conditions, or a primary injury caused by sharp instruments together with a background pathological condition. Each item is presented on a new line and accompanied by numbering.

In cases of competing or concomitant pathological conditions, the forensic veterinary diagnosis may be limited to indicating the nosological units within the combined primary pathological condition using numbers only, without specifying the nature of their interaction (competition or combination). It is additionally permissible to indicate background pathological conditions that belong to nosological units or syndromes for each of these pathological states. At the same time, it is inadvisable to transform the forensic veterinary diagnosis into a multicausal (polypathic) one.

Complications of the primary injury inflicted by sharp instruments are pathological processes that are secondary to the primary injury but are etiologically and pathogenetically related to it. Complications may become leading factors in the progression of trauma and play a decisive role in the occurrence of the animal's death.

It is advisable to divide complications of injury into:

- 1) nosological units, more often symptoms or syndromes, that are directly or indirectly associated with the primary injury but are not its immediate manifestations;
- 2) immediate causes of death, which are indicated in the second rubric of the forensic veterinary diagnosis as complications of the primary injury.

Depending on the time of occurrence, complications of the primary injury may be classified as:

1) immediate (early), which appear immediately after trauma, such as acute blood loss, embolism, shock, aspiration of blood, compression of organs by blood (which occurs in cases of bleeding into the pericardial cavity (cardiac tamponade), hemorrhages into the epi- and subdural spaces of the brain, or pneumothorax), as well as infectious complications, etc.;

2) delayed, which develop at later stages of the disease or after trauma, such as pneumonia, sepsis, peritonitis, and other similar conditions.

According to their significance in the pathogenesis of trauma, complications are divided into major, which become leading factors in the progression of trauma and are of key importance in causing the animal's death, and minor, which play an auxiliary role in pathogenesis or thanatogenesis. The major complication usually becomes the immediate cause of death.

By number and sequence of development, complications are classified as single, multiple, and multilevel.

Concomitant injuries (pathologies) are those that are etiologically unrelated to the primary injury and its complications. A concomitant pathology may develop and manifest either before or after the occurrence of the primary injury and does not have a direct causal relationship with death. These are indicated in the third rubric of the forensic veterinary diagnosis.

In expert practice, the terms "competing," "combined," and "background" diseases are used to formulate a forensic veterinary diagnosis. Competing pathological conditions in cases of injuries caused by sharp instruments are nosological forms that were observed simultaneously in the injured or deceased animal. Each of these injuries could independently, or through its complications, become the cause of health deterioration or even death. For example, this may include a case of severe traumatic brain injury accompanied by a stab or incised wound with acute blood loss and brain contusion.

Similar situations also include cases of complex fatal injuries caused by sharp instruments to various internal organs, such as the liver and heart, occurring simultaneously in the same animal, or a simultaneous severe traumatic brain injury and a stab/incised injury to a major blood vessel.

Combined injuries (pathological conditions) are specific forms of pathologies or traumas that simultaneously affect the animal's body. These conditions, being interrelated within different pathogenetic mechanisms, complicate each other's course to such an extent that they may lead to a fatal outcome. It should be noted that none of these conditions alone would have a lethal effect. An example of combined injuries is acute traumatic-pain shock together with a stab/incised injury to the lungs, which lead to death only through their mutual complication.

It is important to emphasize that for competing **or** combined conditions, only cases in which the nosological forms occur simultaneously, and not sequentially, should be considered.

Background diseases (conditions) in cases of injuries caused by sharp instruments should be regarded as a nosological unit that has no direct etiological link to the primary injury or pathological condition, but significantly aggravates or worsens its course. For example, the adverse outcome of a trauma caused by a sharp instrument in an animal may be influenced by the presence of a severe form of diabetes mellitus or hemophilia.

It is inappropriate to replace the term "background disease" with the term "background", as this distorts the definition of a background nosological form, which has a pathogenetic relationship with the primary disease.

Algorithm for Describing the Primary Injury in a Forensic Veterinary Diagnosis for Injuries Caused by Sharp Instruments. For the correct and comprehensive description of the primary injury in a forensic veterinary diagnosis for injuries caused by sharp instruments, the authors of this work have developed the corresponding algorithm (Table 1).

Table 1

Section 3

Algorithm for describing the primary injury in a forensic veterinary diagnosis for injuries caused by sharp instruments

#	Rubrication	Elements of the diagnosis
1.	The nature of wound injuries	Scratches, stab wounds, incised wounds, chop wounds, sawing wounds, mixed wounds
2.	Localization	In the region of the head, neck, trunk, and thoracic and pelvic limbs
3.	Grouping	Single, multiple, scattered (isolated, combined)
4.	Morphological features of the wound opening	Edges *
		Ends *
		Shape of the wound opening *
5.	Mechanism of formation	The manner by which a sharp injuring instrument causes damage *
6.	Connection with the external environment	Open, closed
7.	Penetration into body cavities and joints	Penetrating
8.	Depth	Superficial
9.	Complexity	Simple
10.	Presence of the wound base	Blind
11.	Site of infliction	Local
12.	Degree of severity	Severe
13.	Time of infliction	Antemortem, postmortem
14.	Aggravating factors	Aggravating, non-aggravating
15.	Consequences of the injury	Lethal
		Non-lethal, transient
		Non-lethal, prolonged, resulting in:
		- Life-threatening condition
		- Loss of an organ or body part
		- Mutilation of the exterior
		- Traumatic termination of pregnancy
- Maiming		
- Loss of working capacity (permanent, prolonged)		
16.	Impact of the injuring factor on the morphology of the wound	Reflected, not reflected

* The morphological features of the wound opening (shape, edges, ends), as well as the mechanism of injury caused by different types of sharp instruments, have been described by the authors in other studies (Yatsenko, 2025; Yatsenko, 2024).

Let us provide an example of formulating a forensic veterinary diagnosis for an incised wound based on the algorithm we developed. Such a diagnosis should be formulated as follows:

Primary injury: incised wound in the middle third of the ventral region of the neck, measuring 7 × 2 cm; single; with even edges, acute-angled ends, gaping and spindle-shaped wound opening; formed by the mechanism of action of a sharp cutting instrument on the animal's body; open; non-penetrating, deep, complex, blind, local, severe, inflicted ante-mortem, uncomplicated, non-lethal, which caused a life-threatening condition with prolonged loss of working capacity; characteristics of the injuring instrument and wound morphology are not reflected.

Let us consider examples of composing a final forensic veterinary diagnosis in cases of various types of injuries inflicted by sharp instruments with a fatal outcome.

1) *Combined trauma in a dog Primary injury*: penetrating stab-incised wound on the anterior surface of the left thoracic wall, causing damage to the right atrium and cranial part of the left lung. Observed: left-sided hemothorax (volume 150 cm³) and hemopericardium (volume 30 cm³). Open cranial trauma is represented by a fragmentary fracture of the left parietal bone with disruption of the

dura mater. In the left parietal lobe, a subdural hematoma (volume 10 cm³), subarachnoid hemorrhage, and hemorrhage into the soft tissues of the head in the left parietal region are identified.

Complications of the primary injury: acute blood loss manifested by anemia of internal organs and faintly expressed postmortem lividity.

2) *Stab-incised injuries in a dog*. Primary injury: multiple stab-incised wounds on the left thoracic and abdominal walls, penetrating into the thoracic cavity (6 wounds) and abdominal cavity (4 wounds). Wound injuries to the right atrium, upper part of the right lung, liver, and stomach.

Complications of the primary injury: hemothorax: right-sided (130 cm³) and left-sided (120 cm³), hemoperitoneum (200 cm³); hemorrhagic shock; traumatic-pain shock.

3) *Railway injury in a dog* Primary injury: complete traumatic disarticulation of the pelvic limbs at the level of the upper third of the femurs. Wedge-shaped defect, pressure streaks along the edges of the disarticulation, angular skin flaps along the edges of the disarticulation on the anterior surfaces of the femurs.

Complications of the primary injury: hemorrhagic shock, brain anemia, presence of streak-like hemorrhages under the endocardium (Minakov's spots).

Principles for Formulating a Forensic Veterinary Diagnosis. A forensic veterinary diagnosis should fully reflect all pathological conditions and adhere to the following principles:

- *Nosological principle* – the diagnosis must be formulated based on classifications of injuries;
- *Intra-nosological principle* – for specifying the characteristics of wound injuries, including their location, grouping, morphological features of the wound opening, mechanism of formation, connection with the external environment, penetration into body cavities and joints; depth, complexity, presence of a wound floor, site of infliction, severity, timing of injury, aggravating factors, consequences of the injury, and the impact of the injuring agent on wound morphology;

- *Pathogenetic principle* – to reflect the sequence of formation of injuries and pathological states (complications of the injury, concomitant and background conditions), their interrelationship, and features of manifestation;

- *Dynamic principle* – to reflect the dynamics of changes in the wound process (applied when formulating a forensic veterinary diagnosis for live animals);

- *Structural principle* – formulation of the forensic veterinary diagnosis should take into account the classification of wounds caused by sharp instruments, the pathogenesis of their complications, concomitant and background pathologies, and the specifics of their interaction.

Requirements for a Forensic Veterinary Diagnosis. Certain requirements must be met when formulating a forensic veterinary diagnosis:

- Accurately reflect the essence of the injury (disease);
- Be complete, objective, well-founded, correct, truthful, reliable, and specific;
- Ensure the effectiveness of formulating the expert's final conclusions in the report;
- Abbreviations or shortened forms must not be used;
- Be nosologically defined (contain the specific name of the injury according to forensic veterinary or veterinary classifications).

A *specific forensic veterinary diagnosis* is a real, entirely accurate, and precisely defined conclusion by a forensic veterinary expert regarding the nature, essence, main manifestations, and course of the injury (disease), described using specialized veterinary terminology that corresponds to accepted classifications and the name of the specific injury (disease), and is decisive for formulating the expert's final conclusions.

A *complete forensic veterinary diagnosis* is a comprehensive (integrated) conclusion of a forensic veterinary expert on the health status of an animal, which includes the primary disease, its complications, and concomitant conditions, their stage, cause, and is formulated taking into account all data from anamnesis, physical, technical-instrumental, and laboratory forensic veterinary examinations, in order to explain the cause of the animal's health disorder or death.

The key elements of a specific and complete diagnosis are:

- *Primary diagnosis* – i.e., injury caused by sharp instruments (including the nature of the wound, location, grouping, morphological features of the wound opening, mechanism of formation, connection with the external environment, penetration into body cavities and joints, depth, complexity, presence of a wound floor, injured body area, severity, time of infliction, aggravating factors, consequences of the injury, and reflection of the injuring agent on wound morphology);

- *Complications* of the injury;

- *Concomitant pathological conditions;*
- *Results of technical-instrumental and laboratory examinations.*

An *objective forensic veterinary diagnosis* represents the conclusion of a forensic veterinary expert regarding injuries (diseases) and is based on features that exist independently of human consciousness, will, or intentions. Such a diagnosis must be impartial and free from subjective influence. The main elements of an objective diagnosis include visible, measurable, and palpable changes in the patient's body, such as objectively perceptible and verifiable signs; examination results based on factual data; characteristics of the injuries; as well as a structured diagnostic formulation that takes into account the primary disease, complications, and concurrent conditions.

A *substantiated forensic veterinary diagnosis* is a conclusion that is sufficiently supported by facts and arguments and is therefore convincing. It represents an accurate determination of an injury or disease based on data obtained from instrumental and laboratory investigations, as well as a comprehensive analysis of all information collected during the forensic veterinary examination. Such a diagnosis must be clearly structured, with emphasis on the primary injury (disease), associated pathologies, and possible complications.

Its purpose is to clarify the nature of the injuries, their localization and character, to determine their grouping, and to describe their morphological features. It takes into account the mechanism of wound formation, interaction with the external environment, the depth and complexity of the trauma, penetration into body cavities or joints, the presence of the wound tract base, the affected body region, the degree of severity, the time of injury infliction, possible aggravating factors, and potential consequences. The diagnosis should include data on the impact of the injuring factor on the morphological structure of the wound, the results of instrumental and laboratory studies, as well as concurrent pathological conditions.

A *truthful forensic veterinary diagnosis* is one that corresponds to the truth and represents an honest, accurate, and well-substantiated conclusion of a forensic veterinary expert regarding an injury (disease), established on the basis of a comprehensive examination. It reflects the essence of the pathology, identifies its primary cause, complications, and concurrent pathologies, and serves as the foundation for formulating final conclusions; that is, it corresponds to the actual factual data and the circumstances of the case. The key aspect of a truthful diagnosis is its accuracy, as it reflects the animal's true condition rather than assumptions.

A *reliable forensic veterinary diagnosis* is a correctly established assessment of the animal's state of health or cause of death, confirmed by the results of a comprehensive forensic veterinary examination (laboratory and instrumental), based on the factual circumstances of the case and objective investigation, and serving as a basis for the effective formulation of final conclusions. It is not a mere assumption, but a scientifically substantiated conclusion that provides insight into the cause, mechanisms of injury, and the mechanism of the animal's death.

The key aspects of a reliable diagnosis include a comprehensive approach (using not only external signs but also instrumental and laboratory data), the experience and professionalism of the forensic veterinary expert, and consideration of specific individual facts and circumstances.

A *correct diagnosis* is one that corresponds to reality and established rules; it is true, error-free, and precise.

Conclusions. A definition of the term «forensic veterinary diagnosis» has been formulated, the content of which is that it represents a structured logical generalization by a forensic veterinary expert of the essence of an injury (disease) associated with violent actions against an animal—the object of forensic expert examination. It is expressed through the determination of its nosology and etiology; the mechanism, timing, sequence, and antemortem or postmortem origin of its formation; the degree of severity; causal relationships; and the identification of complications, as well as concurrent and background pathologies, based on the results of a detailed forensic veterinary examination of a live animal or an animal carcass, in accordance with the classifications and nomenclatures of injuries and diseases established in veterinary medicine.

It is argued that, for the formulation of a forensic veterinary diagnosis in cases of injuries caused by sharp instruments, a generally accepted three-part, rubricated structure is used, encompassing the primary injury, its complications, and concomitant injuries or conditions. The rubrics of the forensic veterinary diagnosis are intended to document these components in the form of nosological entities (units).

It is shown that a nosological unit denotes a specific injury (disease) defined on the basis of established data on its etiology, pathogenesis, or mechanism of occurrence. It is characterized by a set

of clinical, laboratory, and instrumental diagnostic features that allow the injury to be precisely identified and classified into the appropriate group of conditions with similar etiology and pathogenesis.

An algorithm for describing the primary injury in animals traumatized by sharp instruments during the formulation of a forensic veterinary diagnosis has been developed. This algorithm promotes adherence to the principles of forensic veterinary diagnosis formulation, which should fully reflect all pathological conditions and comply with the following principles: nosological, intranosological, pathogenetic, dynamic, and structural.

It has been demonstrated that a unified structure of the forensic veterinary diagnosis ensures accurate statistical recording in forensic veterinary expertise.

The main requirements for a forensic veterinary diagnosis are outlined as follows: nosological specificity (including the designation of a specific injury in accordance with forensic veterinary or veterinary classifications); accurate reflection of the essence of the injury (disease); completeness; objectivity; substantiation; correctness; truthfulness; reliability; and specificity. In addition, the diagnosis should allow for the effective formulation of final conclusions in the expert report without the use of abbreviations or acronyms.

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ОСОБЛИВОСТІ СТРУКТУРУВАННЯ СУДОВО-ВЕТЕРИНАРНОГО ДІАГНОЗУ ЩОДО УШКОДЖЕНЬ, ЗАВДАНИХ ГОСТРИМИ ЗНАРЯДДЯМИ

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Резюме. У роботі розкрито особливості структурування судово-ветеринарного діагнозу щодо ушкоджень, завданих гострими знаряддями. Сформульовано дефініцію «судово-ветеринарний діагноз», зміст якої полягає в тому, що це констатація сутності ушкодження (захворювання), складена судово-ветеринарним експертом за результатами детального судово-ветеринарного дослідження живої тварини або трупа тварини, який характеризує сутність травми (захворювання), відображаючи їх нозологію, етіологію, механізм утворення, згідно із встановленими у ветеринарній медицині класифікаціями та термінологією.

Аргументовано, що для формулювання судово-ветеринарного діагнозу за травми, завданої дією гострих знарядь, загальноприйнято використовується тричленна, рубрифікована структура, яка охоплює основне ушкодження, його ускладнення та супутні ушкодження чи стани. Рубрики судово-ветеринарного діагнозу призначені для документування цих складових у вигляді нозологічних форм (одиниць).

Показано, що нозологічна одиниця позначає конкретне ушкодження (захворювання), визначене на основі встановлених даних про його етіологію, патогенез або механізм. Вона характеризується сукупністю клінічних, лабораторних та інструментальних діагностичних ознак, що дозволяють точно виокремити травму та класифікувати його у відповідну групу станів зі схожою етіологією та патогенезом.

Розроблено алгоритм описання основного ушкодження за травм тварин гострими знаряддями під час складання судово-ветеринарного діагнозу, що сприятиме дотриманню принципів формулювання судово-ветеринарного діагнозу, який повинен повною мірою відображати всі патологічні стани та відповідати принципам: нозологічному, інтранозологічному, патогенетичному, динамічному, структурному.

Доведено, що уніфікована конструкція судово-ветеринарного діагнозу забезпечить правильний статистичний облік в судово-ветеринарній експертизі.

Розкрито основні вимоги до судово-ветеринарного діагнозу, якими є такі: нозологічна визначеність (містить назву конкретного ушкодження, згідно з судово-ветеринарною чи ветеринарними класифікаціями), точне відображення суті ушкодження (захворювання), повнота, об'єктивність, обґрунтованість, правильність, правдивість, достовірність, конкретність; ефективність формулювання заключних умовиводів у висновку експерта без використання аббревіатур і скорочень.

Ключові слова: судово-ветеринарна експертиза, ушкодження, гострі знаряддя, діагноз

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