

FEAR AND AGGRESSION IN DOGS

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ABSTRACT

In this review, the concepts of fear, phobia and aggression in dogs were precisely defined, as well as their underlying causes. The behavioural activities specific for these conditions were indicated. The accompanying symptoms were consistently explained. The causes that the development of pathological fear leads to aggression in dogs as well as the various therapy options depending on the clinical signs were presented.

Key words: *fear, aggression, behaviour, treatment, symptoms.*

INTRODUCTION

Dog breeding, after being an entertaining activity and the hobby of amateurs for a long time has now brought to a professional level. This requires knowledge and experience in order to meet the biological and hygienic norms. According to many authors (1-3), the dog can have many occupations thanks to its six senses. Today these popular animals are used as hunters, lifeguards, shepherds, messengers, border guards, criminal investigators, customs officers, ore finders, child caretakers, disabled person assistants, odorologists and healers.

Dogs are perfect detectors of human emotional conditions and can successfully recognize psychoses. Currently, dogs are mostly used as companions and kept as apartment pets in Bulgaria.

Even though the first private kennels have already appeared in Bulgaria, the development of animals at such sites is still limited. The number of dogs in Bulgaria is between 350,000 and 380,000.

In the city of Sofia the number of stray dogs is between 150,000 and 200,000. Many of these dogs were abandoned of their owner's.

They often exhibit aggression and it is not surprising that reports of severely bitten people have increased lately. The dog is a generally peaceful animal, but in order for it to socialise successfully, quickly and correctly, considerable knowledge regarding its behavioural potential is required, as well as of the peculiarities of its nervous system (3). Behavioural abnormalities most often occur due to lack of knowledge of dog temperament classification. From this stems the incorrect approach towards it, as a result of which develops behavioural pathology, with fear and aggression being among the most commonly exhibited and most dangerous pathological conditions, certainly being the most common conditions (4).

In the early 1990's in Canada, the characteristic trait of 3–4% of cases concerning dog behaviour was that the vet would spend 20% of the time giving

behaviour-related advice. Moreover, 7–11 million dogs are euthanized in the USA every year, with the cause for 50–70% of them being behavioural problems (3, 4).

GENERAL INFORMATION

Fear is always caused by a specific cause and is an emotional state, in which the individual feels that in a certain situation, none of the behavioural expressions established thus (innate or acquired) could be applied to remove the sensation of fear, of physiological aspect.

Phobia is defined as a persistent, intrusive, unfounded (no specific reason) fear with pathological intensity and pathological character, non-adapted with regard to real threats and the factors that cause them.

Aggression is the individual's (the dog's) response, resulting from the experienced fear and is defined as a behavioural problem (disrupted behaviour due to fear).

In most cases, the dog is afraid of loud (high-frequency) noises, unfamiliar people, prolonged separation from the favourite owner, unfamiliar surroundings. Great significance is given to fear phenomena demonstrated by pedigree dogs subjected to training. From 118 examined animals with regard to exhibiting fear (in the State of Ohio, USA), 20% were scared of loud noises, and 8% were afraid of strangers. Of the 600 trained guide dogs for blind people, of the German Shepherd and Labrador breeds, 19% were afraid of high-frequency noises, 15% were afraid of cars and agricultural machines, and 12% were scared of other animals. According to another study, 8% of the observed 115 dogs were afraid of storms and loud noises.

In 1990, the condition of 26 adult dogs was examined, and 12% of them exhibited fear of storms and powerful booming noises (5, 6). One year later, a specialised clinic in the US reported that 1/3 of the ethological pathology was related to fear – 53 dogs out of total 161.

Studies indicate that the sensation of fear in these popular animals is accompanied by aggression, angst or separation anxiety.

From the information presented so far, we can conclude that a major part of the ethological problems in cynology originates from fear caused by

various reasons, i.e. the issue is quite current.

It should be noted that fear could possibly lead to numerous behavioural deviations, some of which can be perceived as physiological, i.e. not as pathological. The sensation of fear is defined as normal when it helps the individual to adapt during dangerous situations, and as abnormal when its extent and strength is not associated with a specific threat and is too high. Still, fear is adaptive in nature, as it helps the individual to adjust to the changes in the environment (5).

The behavioural response of the dog regarding his object or subject that caused the fear can be divided into three types: 1) escape; 2) immobilization; and 3) fight.

These behaviour types, as well as their intensity depend on the animal's genetics, the accumulated experience and the environment, in which it grew. In general, the fear-causing factors in dogs are divided into 4 types: 1) depriving – subjects who deprive the dog of its food; 2) physical – heights, extreme noises, temperatures (fire), etc.; 3) Risk situations – moving the dog to a new location, presence of new objects; 4) owner's or other dogs' behaviour – threats, introduction of a new individual, etc.

The physiological response to fear in these animals is characterized by the activation of the neuroendocrine system and depends on the influence of a number of factors: individual qualities, sex, etc.

The behavioural and physiological response can be exhibited independently from each other. For example, it is possible to observe a change of behaviour in case of a perceived threat without detectable physiological changes. If the dog notices someone stealing its food, it could evade the threat and move away (unusual behaviour). In this case, only a behavioural response has been observed, without any physiological reaction. Still, what does the animal feel in the situation: does it respond to the threat (the thief) by escaping in order to deceive them and increase its own chances of success, or does it sense danger and feel fear? The question remains open to interpretation (7).

It has already been noted that phobia is a condition characterized by the sensation of constant and intrusive fear with abnormal intensity, and non-adapted with regard to the actual dangers and the factors causing them. In dogs, there are frequently encountered phobic conditions. For example, phobia of gunshots, storms, car noise, crowds of people.

ETIOLOGY AND SYMPTOMS

The etiology of the development of fear, phobia or aggression in dogs has thoroughly studied and two possible causes identified:

- 1) Genetic causes – the cause is in the dog's genetic fund (its genotype inherited from the parents);
- 2) The acquired experience on dog over the course of its life;

For a long time, ethologists (7, 8) have made efforts to determine its influence of genotype on the behaviour of animals (dogs, in particular). In the early XX century, data regarding intelligence tests on dogs and cats were found.

In general, studies on the influence of genotype on animal behaviour advance slowly. Inheritance (in the ethological aspect) is defined as a possibility for one behavioural or physical act to be passed on from one generation to another. This can happen within one or more breeds.

In more than one breed, ethologists (7-9) examined five dog breeds (Beagle, Scottish Shepherd, German Shepherd, Fox Terrier, Cocker Spaniel). They used different tests to examine the emotional activity of the animals by observing the volume of their barking, the position of the tail and ears, as well as the values of certain physiological parameters – heart and breathing rate. By realizing these studies, the ethologists characterized numerically the influence of genotype on the expressions of fear in dogs, with the extent of this influence ranging from 0 to 1. If the value is 0, this would mean that the dog's exhibition of fear was a result of the influence of environmental factors, without genotype interference. Such behaviour was described in a population, in which all dogs had the same genotype.

If the value is 1, this would mean that any change in the population's behaviour was the result and under the influence of genotype. It has been established in dogs living in the same conditions. Both cases are practically impossible, as 100% identical results with regard to the environment or the hereditary factors are very difficult to achieve in nature.

A value of 0.2 is the necessary minimum for the provocation of a noticeable change as a result of gene fund influence.

European researchers have performed a multivariate analysis regarding the significance of inheritance on fear in guide-dogs for blind people. It should be noted that a guide dog sometimes has to

work under extreme conditions (noise, street traffic, etc.). A dog that is deemed as fearful should not be trained for a guide.

The researchers studied four dog breeds: Labrador, Australian Shepherd, German shepherd and Boxer. They observed the animals' and their offspring's behavioural differences, as well as the possibilities for the selection of more fearless dogs from these breeds. The animals were placed in a wide cage to test their behaviour for a period of 4 weeks, and were returned to their original environment after the test's conclusion (12 – 18 months of age). The authors completed 38 studies regarding fear behaviour. Statistical analysis of the studies allowed the characterization of 3 fear conditions, which are unrelated to each other, such as 1) general fear; 2) fear of objects in the environment; and 3) suppressed fear.

The suppressed fear concerned dogs reacting to environmental stimuli through stronger actions (exaggerated reaction or escape). This also included dogs with more passive behaviour or lowered activity. The researchers (9-11) also established that the Labradors were least cowardly of the 4 examined breeds, and that the Boxers were braver than the German Shepherds.

In a single breed, the researchers (11, 12) tried to prove through 10-year studies that inheritance determines some of the dog's behavioural expressions. They used one parent generation, which included 4 parent couples of the Pointer breed. The animals were chosen depending on whether they approach, move away, hide, shiver or stand still when confronted by a stranger.

Examining the first generation (F1), the authors picked two contradicting lines of behaviour: the first consisting of non-fearful dogs and the second – of fearful and nervous dogs. The experimenters cross-bred the two lines, i.e. F1/F2 and produced a new generation of puppies – F3. The conditions for development were precisely the same for all newborn, yet one part of them were taken care of by humans, while the rest – by the mothers.

The researchers tested the puppies for fear as follows: 1) a single test every 2 weeks, up to 3 months of age; 2) monthly, from 3 months to 12 months of age; 3) monthly follow-up testing from 12 months to 18 months of age.

Three types of behavioural reactions were examined:

1) Inquisitive behaviour – a puppy's movement throughout the room is measured for a specified period;

2) Puppies' behaviour regarding loud noise (from a falling object) – by measuring the time between their initial reaction (when the noise starts) and the final reaction (when the noise has stopped); and

3) Puppies' behaviour regarding a human in three situations:

- Face to face with an immobile human (standing or sitting next to a desk) – this test measures the puppies' adaptation to the human, i.e. Their socialization;
- Face to face with an unfamiliar human who talks without petting them;
- Face to face with a hostile human (may be masked) who walks deliberately and fast towards the puppies, (this test is to measure their fear of humans).

The test results showed major differences between the two examined dog lines:

- Regarding the puppies' behaviour – the fearful stood still and moved much less than the brave ones this is true for both lines, the puppies taken care of by their mothers or by humans;
- Regarding the behaviour in case of loud noise, fearful puppies panicked, as opposed to the braver ones who remained calm;
- Regarding the exhibited behaviour towards humans, it can be noted that the braver puppies were inquisitive and active in their communication with the human (social activity), whereas the more fearful ones stood still with dilated pupils.

With these results, it can be considered that the behavioural expression in these animals was inherited.

American scientists (13-15) have accomplished a crossbreeding between male fearful puppies and female braver ones. A fearful mother raised half of the newborn, while the other half was taken care of by a calm and stable mother. All puppies, however, were fearful, regardless of which mother raised them. In fact, this result matched the findings of European scientists, i.e. the differences in the puppies' behaviour were genetic in nature.

Early life experience, i.e. The formation and development of the dog's early life experience are the

second possible cause for the occurrence of fear and phobia in the animal.

The different periods of this experience's development are four: 1) neonatal – from birth to the 15th day; 2) transitional – from the 15th to 21st day; 3) socialization – from the 21st day to the 3rd month of age; 4) growing – from the 3rd to the 6th month.

During the neonatal period, the puppy only sleeps and suckles. It does not see or hear, it does not have its own thermoregulation, and moves around very little. The transitional period is rich in exciting new experiences for the animal. It starts seeing and hearing. The muscles' growths, as well as the development of the nervous system are intensive enough for the puppy to freely, even if clumsily, leave the lair, explore its surroundings and interaction with its peers.

The socialization period (adaptation to the environment) is characterized by two important processes. The puppy's sensory, nervous and motor capabilities develop, i.e. It starts to actively explore and adapt to its environment (socialization). It is during this period that the animal accumulates experience and develops its social relationships. It learns how to communicate with its peers (interspecies socialization), which other living objects are its friends and how to communicate with them (interspecies communication). Its sexual preferences are pointed towards individuals of the dog species if interspecies socialization has developed correctly, i.e. the puppy has understood which species it belongs to (16).

These processes develop in two stages. The first stage (attraction phase) begins from the age of 3 weeks, increases around the 5th week and is complete by the 12th week. During this period, the animal feels attracted to the individuals it does not know. The second stage (rejection phase) begins at the age of 5 weeks. The puppy no longer is attached to new objects it encounters at this point. In other words, during the period between the 3rd and 12th week if the puppy has not encountered more interesting individuals, it would establish a connection with them later. It should be noted that dogs recognize people very well. The dog recognizes the variety in human appearance, starting from the baby, little child, adolescent, and the adult. It distinguishes between these ages by the hair color and length, the presence or absence of beard, uniform, etc.

In a puppy at this age, another process devel-

ops – the establishment of the so-called “sensitivity threshold” regarding homeostasis. This is the equilibrium between the animal’s body and all challenges (stimuli) in the environment at a given moment. To fix this “homeostasis sensitivity threshold” means that the animal would be able to create a level of “acceptable socialization” with the environment, in order to preserve its behavioural equilibrium. The environment’s factors (stimuli), among which the puppy develops, are various: olfactory, audio, visual, and tactile. If they exceed the puppy’s “homeostasis sensitivity threshold”, a disruption in the homeostasis and behaviour will occur, due to the inability to adapt to them. They become “stressors” for the animal. The homeostasis threshold is established between 3 and 12 months of age.

There are puppies born with a low homeostasis sensitivity threshold, due to which they have difficulty adapting to their environment (unsuccessful socialization). This is defined as pathological and is known in ethological science as the “syndrome of deprivation or seizure” (16-18). It occurs due to social causes (isolation of the dog), emotional causes (depriving the dog of something), motor causes (movement restriction), and physical causes (lack of sufficient environmental stimuli). These phenomena can have different duration and intensity, and encompass different ages (19).

It is possible for the puppy to be successfully socialized, yet behavioural problems will occur from the moment there is a social or physical change, and they will have a reflection on the puppy’s further development.

Researchers (19, 20) have studied the behaviour of isolated dogs, compared to the behaviour of dogs kept together or in the presence of a human. It was typical for hypo-socialized puppies that they did not identify themselves as dogs. They exhibited no interest towards themselves when they looked at their own reflection in a mirror, for example. Normally socialized puppies, however, would waive their tail, purr, scratch the mirror and they would even go behind it to see what lies there.

Moreover, when hypo socialized puppies were moved in with other puppies, they exhibited no interest towards them, they isolated themselves from the group, did not play with the others, and always assumed a submissive position in case of conflict, i.e. they were not aggressive. They also did not exhibit sexual behaviour, as their contacts with other

animals were minimal. It was possible, however, for hypo-socialized puppies to exhibit interest and attachment (hyper socialization) towards other living individuals, e.g. the human.

A number of studies have described the relationship between fear of humans and the early life experience acquired by the puppy. For example, in one of them, eight litters have separated, together with their mothers, in special fenced outdoor areas, in the period between the age of 2 and 14 weeks. Food and water were passed through special openings in the fences. Even though the puppies stayed with their mothers, their total number was divided into 6 groups: 5 groups were allowed to communicate (socialization) at the ages of 2, 3, 5, 7, and 9 weeks, whereas the 6th (control) group was left outside the fence along with their mother up to the age of 14 weeks. During the period of adaptation to the environment, the young animals were tested 3 times a week for 30 minutes with regard to fear. Ethologists (21-23) emphasized on the moment when the puppies started communicating physically with a human through passive behaviour (10-minute test). The researchers noticed that the behaviour of the animals from the different groups evolved towards the end of the socialization process.

Therefore, the 2-week-old puppies only ate, slept and made random movements. At 3 weeks of age, they were more active with regard to eating and drinking water. The 5-week-old animals started to exhibit an active interest towards the human, unlike the younger ones, that only scratched or pushed them with their paws. Before the test’s conclusion, however, the puppies relaxed and their behaviour was similar to what was seen in the 3-week-olds. The 7-week-old puppies were fearful, puzzled and untrusting during the first 2 days. The 9-week-olds exhibited the same untrusting and fearful behaviour during the first 3 days of the testing.

Regarding the 14-week-old animals, it should be noted that all puppies were attracted to the environment. Their attitude towards the human was tested every third week, in their beginning and end. It was established that the human less attracted this group (the control one) than the above mentioned ones. The ethnologists have also found out that the minimal required time for the occurrence of a social action was about 8 minutes per week. Based on the presented information, it is necessary to note that it is necessary that the puppy socialization be con-

ducted properly. This means that the puppy should be raised in a suitable environment from an as early age as possible, and it should receive proper treatment by humans. Even though inheritance plays a big role in this process, the conditions in which the puppy grows also influence its socialization significantly. The consequences of early or late socialization are always exhibited as behaviour disorders, which impede the dog's training, causing it to have difficulties with fulfilling its duties.

In order to thoroughly consider the influence of early life experience, most of all – the young animal's inquisitive behaviour, the ethnologists (23, 24) subjected it to a prolonged study. They tested the puppies at the ages of 5, 8, and 12 weeks (group 1) and at 16 weeks of age (group 2). The animals were raised in groups without human contact and any other objects in the cages. The following stimuli were used in the testing:

- Empty cage;
- Cage with a rat;
- Cage with a mirror;
- Cage with a loudspeaker;
- Cage with a plastic dog (toy);
- Cage with a stroboscope (an apparatus that displays slowly various movements).

Group 1 was tested 4 times, whereas group 2 – only once. The researchers observed differences in the behaviour starting from the 8th week onward in both groups. Because the puppies in group 2 were tested only once, it proved to be traumatic to them, whereas the puppies from group 1 (tested multiple times) had the opportunity to adapt to the used stimuli (mirror, rat, loud speaker, etc.). It was established that the animals, acquiring early life experience, reacted in two ways: some exhibited hypo activity, did not explore their surroundings, assumed a position in a corner, etc. while others exhibited hyperactivity – they were mobile, performed sudden movements, run around in all directions, and touched everything.

It was also established that the tested puppies that had more human contacts, explored their environment thoroughly, and were braver when inserted into a new environment, compared to the ones that experienced less human contact.

European ethnologists (23, 24) asked the question: why dogs, trained to be guides for blind people, failed in their final exams? They reached the following conclusion: dogs are unable to take responsibility. This statement was formulated after the

realization of experience from the raising of animals per the following scheme:

- From 0 to 8 weeks of age – together with the mother;
- From 8 to 12 weeks of age – enriching the environment with human contact and the performance of behavioural tests;
- From 12 to 52 weeks of age – raising at a dog farm without additional stimuli.

The researchers found out that some of the puppies did not learn how to select the stimuli they could remember, and other puppies did not remember these stimuli tall. Yet, in an individual, that has acquired normal life experience, every new stimulus provoked a shifting in the puppy's reaction towards it.

Therefore, fears and phobias can be inherited in certain cases. Early socialization, however, i.e. the too early accumulation of experience could also lead to behaviour disorders, exhibited as fear or phobias (25).

As it was already mentioned in the introduction, fear leads to numerous behavioural problems in dogs, summarized in four groups:

- 1) Fear of sudden and strongly booming noises;
- 2) Fear of foreign, yet familiar objects (hypo socialization – low degree of attachment to humans and other species);
- 3) Fear of unfamiliar objects (in case of insufficient early life experience);
- 4) Fear (anxiety) of separation (hyper socialization – strong attachment to humans).

There are three types of primary symptoms of fear: hyperactivity (escape or attempted escape, auto stimulation); hypo activity (stillness); and aggression (assault, fighting).

The dog has many channels of communication, through which it acquires the sensation of fear (26). The related behavioural disorders are expressed through lowered back; tail positioned between the legs; bristled fur; ears bent towards the back of the head; pulled backwards mouth corner.

Hyperactivity is observed in the cases of fear or phobia and is demonstrated through jumping, scratching on the door, and uncontrolled running throughout the room.

When they are distressed due to separation, puppies can start biting or chewing on doors and furniture legs, window frames, and the upholstery. It would often overturn the garbage bin, or dig holes

in the garden or under the fence. It may even attempt to escape. Anxiety cases are always accompanied by certain vocalizations, which can be very expressive: howling, barking, and whimpering that often disturbs the neighbours. When the owner returns and the animal is “anxiously” happy, this can be detected by the way it follows the owner around, i.e. it is hyperactive. As was already mentioned, escape is an often observed phenomenon in cases of hyperactivity. The fearful dog is capable of travelling long distances, to injure itself, or even to end up committing suicide under the wheels of a car. Anxious individuals often develop other conditions, such as polyphagia (leading to obesity) and polyuria/polydipsia (a dog with this condition can drink up to 14 liters of water per day).

If the dog is afraid, its sleep could be disturbed. It would sleep most of the time, it would sleep very little, or it would not sleep at all. The animal’s grooming could also be disrupted. Apparent auto stimulation can be observed, which could lead to organ damage. Such dogs would often suck on their tails, suckle from themselves, bite themselves, bump into doors, or move towards various objects as if they desperately need contact with them.

Hypo activity in dogs is related to a specific behaviour. It hides under furniture, does not move a lot, isolates itself, tries to stay alone. Muscle tremors can occur. There is a decrease of voluntary movements, and thus a drop in motor activity.

The aggression, exhibited by animals as a response to experienced fear is, in fact, a commonly encountered behavioural problem (aggression caused by fear). The extent of aggression can be determined by the number of aggressive actions, whose goal was to repel other individuals. This type of behaviour is characterized as a threat by the dog, inclination towards fighting, which could lead to injury, pain, etc.

Hypo socialization regarding humans, as well as imposed punishments or caused pain could also cause aggressive actions, demonstrated through behaviour – when approached by a human, the dog would hide in a corner and snarl (25, 26).

The fear-causing object is quickly summarized by the animal. What does this mean? For example, a puppy hit by a little boy is first afraid of the children that look like the boy. After a while, however, it begins to fear all children in general. Bites caused by fear are very serious, as their frequency cannot be

controlled. Moreover, they are often accompanied by physiological deviations (excessive salivation, diarrhea, frequent urination) in the biting animal. Its posture is very specific. The body and the head are lowered, the tail is between the legs, and the ears are pulled backwards. There is, usually, snarling and barking, followed by biting. Some cases of aggression only involve snarling (the animal gives a warning) or biting without a warning.

As was already mentioned, the physiological response to fear includes the activation of the nervous-endocrine system. This is exhibited as an increase in the heartbeat and breathing rates, of the excretion processes (diarrhoea, urination, vomiting), as well as pupil dilation. Tremor, whimpering, salivation, and sometimes even escape can be observed. *The development and more precisely the prognosis regarding the behaviour of dogs in a condition of fear or a phobia are unfavourable.* Such dogs never get used to the stimuli that caused fear in them. They become even more fearful, during exhibitions, for example. A phobia, whose development was triggered by a shotgun shot, could be generalized with regard to storms and other booming noises, i.e. the animal would start fearing other stimuli with a nature similar to the phobogenic stimulus (26).

TREATMENT

It is important that the vet can identify and control all or most fear-causing stimuli for the duration of the examination. The treatment of fears, phobias and aggression includes:

Experimenting with stimuli, that’s generally cause fear during the consultation in such a way that the dog won’t experience fear. This is achieved gradually (through desensitization and removal of the fear-causing conditions) or by enhancing the effect of the factors causing the fearful condition in the individual, so that it could adapt to the point where the fear disappears.

Usage of psychoactive drugs. We will focus on the use of psychotropic drugs in veterinary medicine with regard to the treatment of various behavioural problems in dogs caused by fear and aggression, as they have become a current issue. These drugs affect the central nervous system (CNS) and change the dog’s behaviour in a desirable way. There are three known types of psychotropic medications:

neurolytics, neuroleptics and antidepressants.

Behavioural pathology in dogs cannot and should not be treated with psychotropic drugs alone. They are very important for the removal or correction of certain symptoms, elimination of acquired behaviour, fostering positive change in this direction, as well as encouraging the dog's owner to establish a good relationship between them (27).

The effect of the psychotropic substances depends on many factors. There are three primary principles regarding their application, pertaining to their primary effect and side effects; used dosage; usage duration – there is a minimal period (of varying length), during which these drugs must be taken mandatorily, in order to achieve the desired effect.

Neurolytic drugs are recommended for various forms of anxiety (in cases of separation from the owner, change of the owner), phobias, tics, or manias, as they have a tranquilizing effect.

They can be used on their own or in combination with antidepressants. It is preferable to avoid the application of neurolytics in cases of aggression, however, due to the disinhibiting properties of some of their ingredients. The prolonged application of tranquilizers could result in deviations in the dog's memory, as well as persistent bradycardia. These medications should never be prescribed to animals with known heart problems.

Neuroleptics are a heterogeneous group of medications from a pharmacological and chemical perspective. They are among the so-called psycholeptics, which decrease mental activity and cause indifference (without drowsiness), decrease aggression and reduce acute or chronic psychotic conditions. Side effects that can occur in the affected dog are decreased locomotors activity, alertness and inquisitiveness, laziness, tremors (not always), urine retention, leukocytosis, low blood pressure.

Antidepressants belong to the group of psychoanaleptics (they increase the mental activity), and are used to suppress depressive conditions of various nature, tics, manias, anxiety, fear, and phobias.

In dogs, but in other animals as well, these medications are applied for certain duration. In order for their effect to become apparent, they should be taken for a minimum of 3 weeks, after which point a decision on the continued course of the treatment is taken depending on the current symptoms.

The psychotropic drugs that have emerged in recent years are considerably more refined and with

fewer side effects. Unfortunately, many of them are still undergoing research regarding their effects on humans and animals, and therefore they will not be described in this study.

It is desirable, however, that every practicing veterinarian has psychotropic medications in store, in order to successfully deal with behavioural problems in dogs, which, as we mentioned, are fairly common.

Psychotropic drugs should be applied in strict dosages, depending on the current symptoms and the animal's weight (27, 28).

CONCLUSION

The application of psychotropic in veterinary medicine is an important issue, especially with regard to the so-called "social" behaviour of the dog. Behavioural deviations in dogs, caused by fear and aggression are usually persistent and severe in terms of symptoms. Therefore, they should be eliminated in a timely manner, to ensure the dog's normal development. Otherwise, the behavioural pathology deteriorates, eventually affecting humans as well. This problem is definitely important and the numerous reports of badly bitten people from supposedly calm dogs are the evidence.

Veterinarians are the specialists who should be more sympathetic with the normal social behaviour of these animals, actively working to preserve it.

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