International Journal of Animal Health Development

Journal homepage: www.mcmed.us/journal/ijahd

APPRAISAL OF ASTRAPHOBIA IN PET DOGS

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Article Info
Received 15/07/2016
Revised 27/07/2016
Accepted 12/08/2016

Key words:
Abnormal behaviour, Astraphobic dogs, Barking, Tachycardia.

ABSTRACT
A survey was conducted to find out the percentage of astraphobic dogs in the higher socio-economical group. Sixty dogs of common breeds kept as pets were screened on the basis of history taken from their owners. About 66.66% of total dogs screened showed astraphobia. Out of total astraphobic dogs, 50% were females and 16.66% were males. Breed-wise distribution of astraphobic dogs included 23.33% Pomeranians, 23.33% German Shepherds and 20% Labradors. Status of astraphobic and non-astraphobic dogs in each breed revealed that about 70% of total Pomeranians, 70% of total German shepherds and 60% of total Labradors were astraphobic. Situation of male and female astraphobic dogs in each breed exhibited that per cent of female astraphobic dog remained 16.66% each in all the three breeds. Per cent of male astraphobic dog remained same 6.66% each for Pomeranian and German Shepherd and 3.33% for Labrador. The upshot clearly reflected that higher percentage of dogs showed astraphobia irrespective of breeds. Perhaps difference in behaviour was a part of coping styles which can be useful in understanding individual adaptive capacity and vulnerability to stress. It is suggested that due attention must be given to pets in the house during the periods of thunder storms. Changes in behaviour can be noticed secondary to lightning strike at a distant place. Proper appraisal of abnormal behaviour in pets is imperative to approach for treatment on individual basis. Pets require patience and understanding from their caretakers during frightening environment and need compassionate soothing. Preparedness is always better than trying to react during a crisis. Safe, secure and comfortable environment must be arranged for the pets before a storm. Seek advice from the veterinarian for medications that might assist in composing the pet and trim down its trepidation for the storm.

INTRODUCTION

Abnormal fear of thunder and lightning is named as astraphobia. Pets may show extreme anxiety and fear during thunder storms particularly at the time of lightning flashes. Thunderstorm phobia is a disorder in which there is persistent and exaggerated fear of storms, or the stimuli associated with storms. Studies have exhibited that the playing of thunderstorm recordings can bring out fearful or anxious retorts in dogs. Anxiety and stress disorders are among the most prevalent categories of mental illness. Persistent anxiety symptoms are associated with significant impairments in functioning. Environmental factors can have a strong impact on anxiety and stress disorder development. Scientists are working to assess the effects of a dog-appeasing pheromone collar in reducing sound-

induced fear and anxiety in a laboratory model of thunderstorm simulation and observed that the collar reduced the scores of fear and anxiety, and increased hide use in response to a thunder recording, possibly by counteracting noise-related increased reactivity [1]. An improved familiarization of behaviour can tremendously enrich life quality in animals. Veterinarians and animal owners have long used general behaviour assessments as subjective indicators of clinical health problems. They may be of significant value in the scientific quantification of behavioural alterations, as changes in behaviour may be the first sign of subclinical manifestations. Scientists try to find out the frequency of exhibition of destructive behavior, urination, defecation, vocalization and salivation due to thunderstorms, fireworks, and other noises [2]. Cognitive behavioral therapy is important to ameliorate the signs.

Specific phobia is characterized by excessive fear triggered by a specific object or situation. The excessive fear brought on by the phobic object or situation leads to intense distress, anxious anticipation, panic attacks, and/or avoidance of the feared object or situation. Fear and anxiety have considerable overlap with respect to subjective, behavioral, physiological, and neurological characteristics. To learn more about predispositions for astraphobia alongwith signs and progression, a survey study is considered suitable [3]. Fear of storms is found more often in working and sporting breeds than other breeds. Shelter or rescue dogs are more prone to storm related phobias. A bad experience from a past storm can trigger a fearful reaction in some dogs. Many dogs show signs of storm related stress which could be caused by being caught in a storm, left outside during a severe storm or home alone when a bad storm occurred. There are plenty of early warning signs of an approaching storm that dogs notice long before humans do. It is important to comprehend that why some dogs are scared of thunderstorms and others are not. Therefore the present survey study was planned with the aim to educate pet owners about the astraphobia in pets.

MATERIALS AND METHODS

The present investigation was a survey study conducted to find out the percentage of astraphobic and non-astraphobic dogs in the higher socio-economical group of people. All pets belonged to area in and around Bikaner district, Rajasthan, India. Sixty healthy male and female dogs of various breeds (Pomeranian, German Shepherd and Labrador) were screened on the basis of history taken from their owners. Dogs were categorized as male (30) and female (30). In each breed, 10 pets were male and 10 female. Age group of all the pets ranged from 8 months to 9 years. The points of history included frequency of aimless barking, hiding tendency, anorexia, frequency of urination, frequency of water intake and any other sign of abnormal behaviour during thunder storms with lightning flashes and sounds.

RESULTS AND DISCUSSION

In the present study, out of 60 dogs screened, 40 were found to have astraphobia. Out of 40 astraphobic dogs, 30 were female and 10 were male. In the dogs showing the signs of astraphobia, 14 were Pomeranian, 14 were German shepherd and 12 were Labrador. About 66.66% of total dogs screened showed astraphobia (Fig.1). Out of total astraphobic dogs, 50% were females and 16.66% were males (Fig.2). Breed-wise distribution of astraphobic dogs exhibited 23.33% Pomeranians, 23.33% German Shepherds and 20% Labradors (Fig.3). Status of astraphobic and non-astraphobic dogs in each breed was also determined (Fig.4). About 70% of total Pomeranians, 70% of total German shepherds and 60% of total Labradors screened were found astraphobic. Status of male and female astraphobic dogs in each breed was also determined (Fig.5). Per cent of female astraphobic dog remained same (16.66%) in all the three breeds. Per cent of male astraphobic dog remained same (6.66%) for Pomeranian and German Shepherd and found to be 3.33% for Labrador. The upshot clearly reflected that higher percentage of dogs showed astraphobia irrespective of breeds. In all the dogs showing astraphobia, the common signs observed were aimless barking, hiding tendency and increased frequency of water intake. Probably difference in behaviour was a part of coping styles which can be useful in understanding individual adaptive capacity and vulnerability to stress. Stress overload was visible in the form of various behaviour changes like anxiety, depression, anger, restlessness, anorexia, irritability, aggression, phobia etc. In present study female dogs showed higher storm phobia than male dogs irrespective of breeds. Lightning phobia is a part of situational phobias. In a study, point prevalence of situational phobia was higher in women than in men [4]. The importance of immediate resuscitation in the victim who appears dead after a lightning strike is emphasized [5]. Lightning represents a trigger for headache in migraineurs that cannot be completely explained by other meteorological factors. It is unknown if lightning directly triggers headaches through electromagnetic waves or indirectly through production of bioaerosols (ozone), induction of fungal spores or other mechanisms [6]. Dogs are triggered by various pattern of wind, thunder, lightning, barometric pressure changes, static electricity and low-frequency roars previous to a storm that humans are not able to pick up. Variable response of different breeds of dogs to a similar type of stress could be due to genetic variability.Temperature, ultraviolet light, lightning, and altitude are some of the most common elements that cause illness [7].

Clinicians have found that combination of drugs and behaviour modification can be effective in decreasing or eliminating astraphobia in dogs. Panting, pacing, trembling, remaining near the caregiver, hiding, excessive salivation, destructiveness, excessive vocalization, self-trauma and inappropriate elimination can be decreased by appropriate treatment. Researchers have found

improvement by the treatment during true storms, rain, thunder and lightning with maintenance of improvement even four months after the study [8]. Lightning stroke can result in subtle cognitive impairments[9]. In the condition of natural lightning, scientists have observed that alteration of the duration of daylight regardless of the male rats season of birth modified rate of sexual maturation, growth, weight, food and water consumption, daily urine output and blood glucose compared with the analogous parameters in the condition of standard light and dark interchange [10].The specific cause of thunderstorm phobia in dogs is still not resolved completely. Some dogs may react to the lightning flashes only, others to the sound only, or by a combination of both. Perhaps dogs can sense variations in the air prior to the onset of a storm and this can put them in trouble. Many dogs do not answer to regular rain storm but react in a loud manner to lightning flashes and sound of thunder.

Scientists are of the opinion that fear and phobias can be caused by environment solely, however, genetic makeup plays an important role. Oversensitivity to loud noises is reported to be homozygous recessive in some German Shepherds. Dogs may respond to stress with reactions in the autonomic nervous system, changes in the neuroendocrine system or changes in behaviour [11].Hypothalamic–pituitary–adrenal (HPA) axis activation in response to stress is associated with behaviour modulation during thunderstorms [12]. Fear is the natural sense of trepidation as a consequence to a circumstance offering peril which may be existent or perceived. The reaction of the autonomic nervous system makes the body ready for the fight or flight syndrome. It is regarded to be a regular behaviour vital for adjustment, endurance and existence. Its *milieu* decides whether the fear response is normal, abnormal or unsuitable. The majority of abnormal reactions are learned and can be unlearned with gradual exposure. Some signs like tremulous, tucking of tail, reduction in activity, passive and escape behaviours are observed in the start of phobia. They are referred to as mild in intensity. Potentially injurious motor activity indicates panic. Diarrhoea is due to activation of sympathetic nervous system. Licking and biting are consequent to anxious behaviour.

There are many conditioning programmes for pets to alleviate fear of thunderstorm**.** Conditioning a pet to experience distinctive about storm sound can be accomplished by steadily introducing the dog to low amplitude recorded sounds of thunder storm. Pets can be allowed to play and eat their favourite food in between. If pet appears to be relaxed then sound can be gradually increased. The object is to make the pet acquainted with the sound. Likewise pets can be gradually exposed to flashes of lights created artificially. It is imperative to tackle astraphobia with execution of effectual management stratagem. Researchers have used an open field model to assess sound-induced fear and anxiety associated behaviours in dogs[13].

Thunderstorm phobia or astrophobia in dogs is actual and common, therefore due attention must be paid to this problem. Still ahead of the first sound of thunder, even well-behaved pets begin to walk, pant, cling to their owners, hide under the bed or fit themselves behind the walls or secure places. In severe cases, pets may claw through floor or wall and chew clothes or carpets or even break through door or windows in their rising fear. For dog welfare, both physiological and psychological aspects should be focused. It is imperative to sidetrack the pets with an activity they feel pleasure in. If the pet is behaving well then an award should be given in order to reinforce the good behavior. Fear in dogs due to storms or lightning flashes can be related to defense mechanisms. Neuro-behaviour problems after lightning strike are diverse. Changes in behaviour can be noticed secondary to lightning strike at a distant place. Proper assessment of abnormal behaviour in pets is important to approach for treatment on individual basis.

Fig. 1. Percent of astraphobic and non-astraphobic dogs irrespective of breed

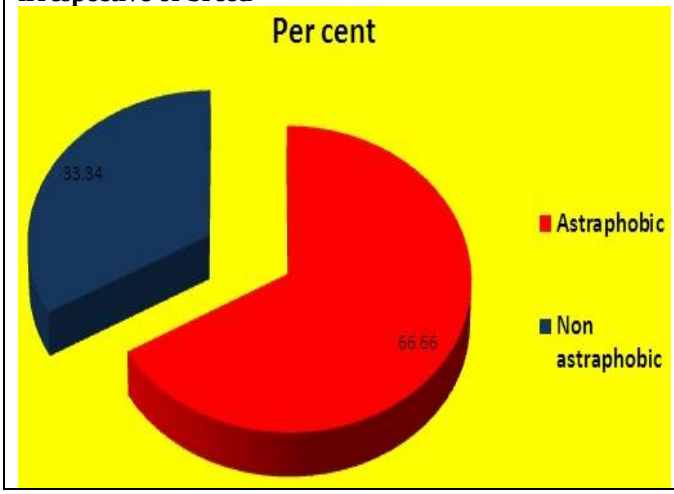


Fig. 2. Percent of male and female astraphobic dogs irrespective of breed

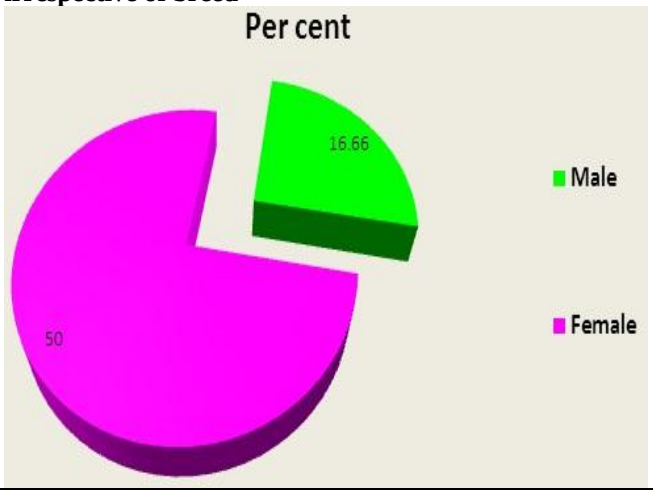


Fig. 3. Breed wise distribution (%) of astraphobic dogs

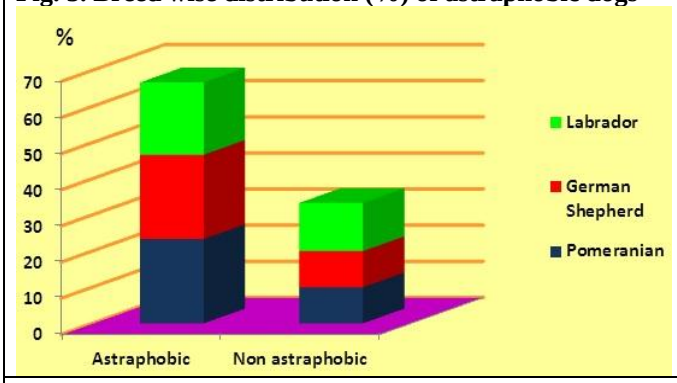


Fig. 4. Percent of astraphobic and non-astraphobic dogs in each breed

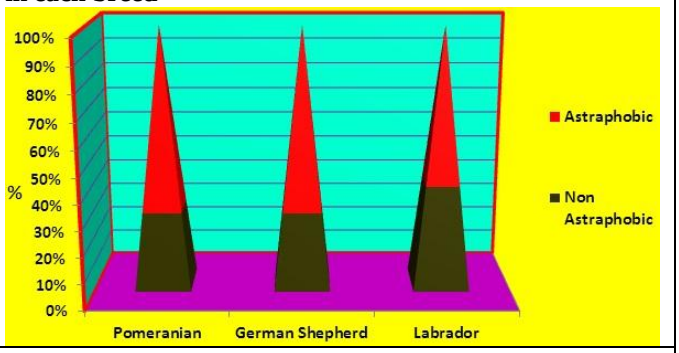
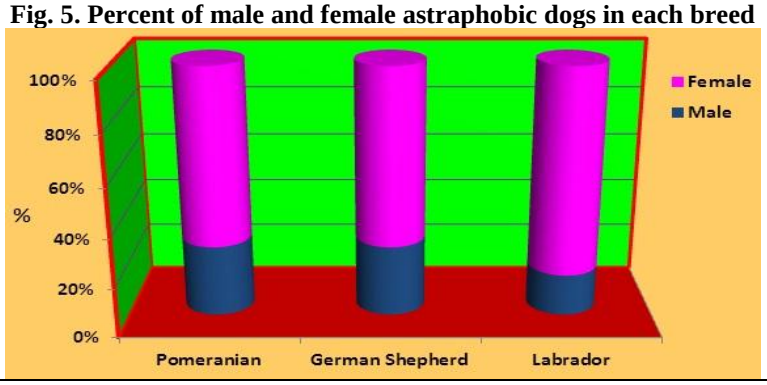


Fig. 5. Percent of male and female astraphobic dogs in each breed



CONCLUSIONS

Pets require patience and understanding from their caretakers during frightening environment and need compassionate soothing. Preparedness is always better than trying to react during a crisis. Arrange a safe, secure and comfortable environment for the pet before a storm. Seek advice from the veterinarian for medications that might assist in composing the pet and trim down its trepidation for the storm.

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