Current therapies for noise phobia in canids

By Belinda Argent

Introduction

Noise phobia in canids is a serious problem from both an animal welfare perspective and due to the impact it can have on owner satisfaction with their pet. Fear-related behaviours develop in response to certain stimuli (e.g. fireworks or thunder) that can be destructive to the animal and their surroundings, such as excessive digging or frantic owner-seeking activities. Positive reinforcement of these behaviours occurs through the natural tendency of owners to reassure and fuss over their pet as soon as they are displayed. Without appropriate therapy, it is not uncommon for severely affected animals to end up at the pound or be euthanased due to owner frustration at being unable to control their pet. The following report will therefore focus on current advances in noise phobia therapy.

Discussion

The use of dog-appeasing pheromone (DAP; Ceva Animal Health) administered via an electronic diffuser has recently been investigated as a natural treatment option for firework phobia (Sheppard & Mills, 2003). Known to have a calming effect on both puppies and adult dogs alike, this synthetic compound is based on postpartum intermammary sebaceous gland secretions derived from the bitch, and administration is via an electronic diffuser placed near the pet's resting area. Trials on 30 dogs began two weeks prior to the onset of Guy Fawkes' night, and guidelines for behavioural management were supplied to each owner (e.g. ignore any fearful behaviour exhibited during a fireworks show rather than punish or fuss over their animal). Three to five weeks after starting DAP therapy, 22 of the dogs showed a reduction in overall fear rating. In addition, nine out of 14 most common fear-related behaviours determined for this group of dogs had significantly decreased in frequency (i.e. restlessness, destruction, hiding, trembling, cowering, vocalisation, excessive salivation, panting and continuous running around). Interestingly though, 25 out of 48 owners did not adhere to the suggested behavioural guidelines and instead admitted to acting in ways that typically reinforced the fear response. In hindsight, the authors realised the success of the study may have been even greater if equal emphasis had been placed on both the DAP and behavioural aspects of therapy.

The importance of behavioural modification for effective treatment of noise phobia was highlighted in a recent study by Crowell-Davis et al. (2003). Daily playing of storm recordings was used in an attempt at desensitisation and counter-conditioning (DSCC) of 32 dogs over 120 days, with subjects rewarded with appropriate counter-conditioners (i.e. toys or food treats) only when calm behaviour was displayed. Showing of fear resulted in removal of the reward and the individual subsequently ignored until the fear response diminished. Analysis of owner-completed surveys revealed that the prevalence of each reported fear-related behaviour decreased significantly throughout the study ($P<0.001$-0.015), and that by the end of the study the overall fear rating for each animal had (on average) more than halved. Furthermore, follow-up assessment four months from study completion showed continued significant improvement in storm-related behaviours. It should be noted that a control group exposed to the storm recordings alone, without the use of rewards, was not included in the study. The effect habituation had on the change in behaviours is therefore unknown.

To aid in behaviour management during the program, clomipramine was administered twice daily to provide continuous anxiety relief. Cognitive function is unaffected with this drug, and due to the success of the study, potential exists for its use in severe cases of storm phobia. Alprazolam was also utilized for its stronger anxiolytic properties during naturally occurring storms, despite its known interference with memory and learning of conditioned responses (Maddison et al., 2001). The effect this drug may have had on the degree of behavioural improvement was not discussed. Interestingly, another study using a similar drug therapy protocol, administered in the absence of simultaneous behavioural training, resulted in no

long-term improvement in fear-related behaviour (Mills et al., 2003). This finding emphasises the necessity of including behavioural modification into any drug therapy program aimed at long-term improvement.

Limited studies have based their research around general practice, where results directly relate to the general population rather than a select group of study animals. Mills and associates (2003) therefore conducted a study during a typical fireworks season involving a general small animal clinic as the source of subjects. Forty-eight dogs were recruited through chance presentation at the clinic for noise phobia, and through discussions with their veterinarian, owners were asked to make an informed choice as to the therapy program they thought would be most appropriate for their situation. Options could be used in isolation or in a combined fashion, and consisted of a formal desensitisation program (CD recordings of fireworks), DAP therapy and/or psychoactive medication (acepromazine or diazepam). In addition, owners were asked to cease any form of operant conditioning (i.e. reassuring the dog when it exhibits fear) and instead were advised to ignore the dog for as long as the behaviour continued. DAP therapy and the CD desensitisation program (either alone or in combination) gave similar positive results to those obtained in controlled clinical studies, thus indicating their appropriateness for use in general practice. In particular, owner-seeking behaviour, vigilance, restlessness, bolting and excess salivation was greatly reduced when the two therapies were used together. The study also raised the issue in general practice regarding a select group of owners who choose behaviour-modifying drugs as a 'quick fix' therapeutic option, and who subsequently fail to comply with additional behavioural training recommendations aimed at fixing the root of the problem. A significant link was found between opting for drug therapy and poor owner vigilance relating to any other aspect of the therapy program ($P<0.05$), thus indicating it may be necessary to take into consideration owner attitude when therapy options are recommended.

Conclusion

The need for behavioural therapy to form the basis for any long-term treatment program has been emphasized in each of the studies outlined above. Inclusion of drug therapy in addition to behavioural training must be approached with caution, however it may have a role to play in treating severe cases of noise phobia. Alternatively, the use of DAP therapy as a more natural aid to behavioural training should be considered in future therapy programs.

References

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