



A clinical case study of Sensory Deprivation Syndrome in an English Bulldog

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Abstract: The patient presented for counseling was a 6-year-old neutered male English Bulldog, who exhibited episodes of tachypnea, sialorrhea and restlessness. During the behavioral evaluation the dog was often alert and hypervigilant. In an outdoor environment the dog was rigid, hypervigilant and showed aggression at the mere sight of other dogs. The emotional state with which the dog faced walks and encounters with other dogs can be attributed to Sensory Deprivation Syndrome. Working on the relationship between the dog and his caregivers was required: the owners, in fact, are unable to reassure or control him, did not seek their support in stressful situations. Fixed times were therefore set for walks, meals and work sessions with the dog. The chosen exercises all had in common the goal of strengthening emotional tranquility alongside physical calmness. Medication in the form of Kanarescue Pet® 10%, 1 drop three times a day, was associated with behavioral therapy to relieve joint pain and lower the dog's anxiety levels. Librela® was also proposed for managing joint pain. The owners were opposed to the use of psychotropic drugs. After four months, the owners reported being satisfied with the dog's progress. The animal seemed calmer both at home (especially during the night) and on walks. Dogs exhibiting Sensory Deprivation Syndrome need to feel safe with their caregivers and establish a correct attachment bond with them. Only in this way will they be able to rely on the owner, gradually becoming desensitized to aversive stimuli and be emotionally and physiologically capable of counterconditioning.

Key Words: dog, sensory deprivation syndrome.

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Signaling

The patient is a 6-year-old English Bulldog, neutered male, BCS 7/10, white coat.

Reason for visit

The dog was presented for counseling following episodes of tachypnea, sialorrhea and restlessness. During one of these events, the dog lost consciousness for a few seconds and was immediately taken to a veterinary clinic, but no clinically relevant alterations were found.

Medical history

The dog has lived with his current owners since he was 1 year old. He was purchased at 60 days old from a breeder by a family who kept him for about 5 months. During this period the dog lived exclusively in the apartment, without ever being taken for a walk or having interacted with other dogs. After developing food allergic dermatitis, he was first confined to the balcony due to the bad smell, then taken to a shelter where he was neutered and entrusted for a few weeks to a second family who then returned him. A short time later the dog was adopted by its current owners.

The owners report that in the first few days, walks lasted about 30 minutes, but the dog became increasingly reluctant to go out. Furthermore, the dog had always shown intraspecific aggression towards males and females, so the owners preferred to limit the duration of walks.

The dog was fed twice a day with dry food and boiled vegetables. He ate his meals with extreme voracity.

The owners described the dog's sleep as restless: he woke up several times during the night, walking around the house. For this reason, his kennel was moved from the bedroom to the living room.

About three months before the behavioral evaluation, the dog suffered a rupture of the anterior cruciate ligament of the left hind limb. He underwent Tibial plateau leveling osteotomy (TPLO) and surgical correction of bilateral entropion.

A few weeks later, the owners went on holiday with the dog. In the evening, after turning off the lights, the dog began to walk restlessly and pant. The owners reported noticing tachypnea, sialorrhea, dilated pupils, cyanosis of the tongue and saw the dog collapse on his side for a few seconds. Fearing heat stroke, they cooled him down with damp cloths. Shortly afterwards, the dog got back on his feet and continued to walk restlessly for about 40 minutes before being taken for an emergency visit. In the following days these episodes repeated but for a shorter period (without cyanosis of the tongue).

Clinical visit and laboratory tests

The clinical examination confirmed the presence of an upper airway obstructive syndrome. A detailed examination of the skeletal system revealed some resistance to manipulations of the hind limbs, particularly the left.

Haemochromocytometric, biochemical analyses, electrocardiogram and echocardiographic examination were normal.

X-rays of the hind limbs showed a good outcome of the TPLO and slight signs of arthrosis at the level of the left knee.

An endoscopy of the upper airways was recommended to assess possible surgery to alleviate the dog's ongoing breathing difficulties, as well as for a neurological examination.

Diagnosis

During the behavioral evaluation, the patient was frequently alert and hypervigilant. The high frequency of yawning and pacing were not considered abnormal by the owners. In an outdoor environment the dog was rigid, hypervigilant and showed aggression at the mere sight of other dogs. Once his physiological needs were met, he stopped and headed towards home.

The dog's emotional state during walks and encounters with other dogs can be attributed to a Sensory Deprivation Syndrome. Isolation immediately after adoption and confinement in a low-stimulation environment during critical development periods, have compromised the dog's sense of security and ability to interact with conspecifics (Wormald et al., 2016), further exacerbated by early castration (McGreevy et al., 2018).

The fear triggered by numerous stimuli and intraspecific aggression are indicators of the patient's inability to respond to external stimuli in a balanced and calm manner.

Over time, subjects with this disorder tend to generalize and anticipate aversive stimuli, leading to a persistent anxious state. The alteration of the dog's sleep patterns, even in a familiar and safe environment, where no real threat was present, confirms the presence of anxiety.

Additionally, the dog's clinical conditions, including breathing difficulties associated with brachycephalic syndrome and the post-operative pain/stress, must be considered, as they may have further exacerbated the anxious state in unfamiliar environment.

Treatment

Work on the relationship between the dog and his caregivers was necessary. The owners were unable to reassure or control him, and he did not seek their support in stressful situations, indicating an altered attachment bond (Mariti et al., 2013 a,b; Carlone et al., 2019).

In insecure and anxious patients, the absence of structured rules and routines increases the need for heightened vigilance. Consequently, fixed schedules were established for walks, meals and training sessions with the dog.

These sessions, planned with the dog trainer, initially focused on teaching the basic commands (sit, down, stay) using a specifically designated blanket. The goal was to reinforce these behaviours with positive reinforcement, thereby associating positive emotions with both behaviour and a mat where the dog usually rested. The exercises were designed to promote both emotional and physical tranquility. Learning these commands required the owners to dedicate 10-15 minutes, twice a day, exclusively to the dog, thus also strengthening their bond. Once these basic commands were mastered, more complex commands, such as “look” and “seek” were introduced. The commands were gradually practiced and reinforced in various contexts before being used successfully during walks. The “look” served to redirect the dog’s attention from other dogs and external adverse stimuli, aiming to minimize negative moods.

Kanarescue Pet® 10%, 1 drop three times a day, was used in conjunction with behavioral therapy to relieve joint pain and reduce the patient’s anxiety levels. Librela® was also proposed for managing joint pain.

Follow up

After four months, the owners reported being satisfied with the dog’s progress. He appeared calmer both at home (especially during the night) and on walks. During walks they were not always able to prevent or interrupt intraspecific aggression, but when they used the “look” command at appropriate times, the dog was able to ignore conspecifics even at close distances. Walks lasted longer, and the dog “seemed happy to go out”.

The owners mentioned that while on holiday for a few days, they promptly used the mat and the associated exercises at the first signs of the dog’s restlessness and panting. The dog calmed down during these exercises.

The neurological examination and endoscopy of the upper airways were not performed.

Kanarescue was then reduced to 1 drop every 12 hours for 30 days to evaluate the dog’s response and determined whether further adjustments were needed.

Conclusions

Dogs exhibiting Sensory Deprivation Syndrome need to feel safe with their caregivers and establish a proper attachment bond. Only in this way can they rely on their owner, gradually desensitize themselves to aversive stimuli, and become emotionally and physiologically capable of being counter conditioned.

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Un caso clinico di sindrome da deprivazione sensoriale in un Bulldog inglese

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Sintesi

Il paziente è un Bulldog inglese di 6 anni, maschio castrato, presentato in consulenza in seguito ad alcuni episodi di tachipnea, scialorrea e irrequietezza. Durante la valutazione comportamentale il paziente era spesso ipervigile. In ambiente esterno il cane era rigido, ipervigile e mostrava aggressività alla sola vista degli altri cani. Lo stato emotivo con cui il cane affrontava le uscite e gli incontri con altri cani può essere attribuito ad una Sindrome da Deprivazione Sensoriale. Era necessario un lavoro sul rapporto tra il cane e chi si prendeva cura di lui: i proprietari, infatti, non riuscivano a rassicurarlo né a controllarlo, e il cane non cercava il loro sostegno nelle situazioni di stress. Sono stati quindi impostati orari fissi per le uscite, i pasti e le sessioni di lavoro con il cane. Gli esercizi scelti avevano tutti in comune il fatto di rafforzare la tranquillità emotiva insieme a quella fisica. Kanarescue Pet® 10% è stato associato alla terapia comportamentale con l'obiettivo di alleviare i dolori articolari e abbassare i livelli di ansia del paziente. Librela® è stato proposto anche per la gestione dei dolori articolari. I proprietari erano contrari al possibile utilizzo di psicofarmaci. Dopo due mesi, i proprietari si dissero soddisfatti dei progressi del cane, che sembrava loro più tranquillo sia in casa (soprattutto durante la notte) che fuori a passeggiare.

I cani che presentano la Sindrome da Deprivazione Sensoriale hanno bisogno di sentirsi sicuri con il loro caregiver e di stabilire con lui un corretto legame di attaccamento. Solo in questo modo potranno fare affidamento sul proprietario, desensibilizzarsi gradualmente agli stimoli avversivi e poter essere sottoposti a tecniche di controcondizionamento.