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Case Report

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Risperidone Therapy in a Dog with Dissociative Syndrome

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SUMMARY

Recently described dissociative syndrome is a progressive behavioral disorder with poor prognosis and almost 28% of animals do not seem to respond to the treatment. In the absence or lack of proper treatment, dissociation worsens and leads to severe cachexia. 4 years old Cocker spaniel-terrier mix male dog referred with complaints including receptivity loss to the environment, inattentiveness, dumb-looking periods, activity avoidance, withdrawal, and snapping the air as fly chasing without a reason. After elimination of somatic reasons, dissociative syndrome was diagnosed based on the history and behavioral examination. 0.5 ml Risperdal oral solution 1g/1m², 100 ml (Eczacıbaşı) was used sid based on 1 mg/m² dose for 11 kg dog (0.49 m²). Before and 1 month after therapy, serum serotonin and because of reported prolactin elevation, prolactin levels were measured. Before and after therapy, there was not a beyond reference value serotonin (370.5-441.9 ng/ml) and prolactin (1.8-2.1 ng/ml) difference. Significant clinical improvement, interactive and relatively increased receptivity and contact, not completely lost, but faded and decreased hallucitative symptoms were observed.

Key Words: Dissociative syndrome, Dog, Risperidone, Prolactin, Serotonin, Hallucination

ÖZET

Disosiyatif Sendromlu Bir Köpeğe Risperidon Tedavisi

Son zamanlarda tanımlanan disosiyatif sendrom, прогноз kötü olan ilerleyici bir davranış bozukluguudur ve hayvanların neredeyse %28'inde tedaviye yanıt vermemektedir. Tedavi edilmez veya tedaviye cevap vermezse, durum kötüleşir ve ciddi kaşksi oluşturur. Materyali, çevreye duyarsızlık kaybı, dikkatsizlik, aptal görünümeli dönemler, hareketsizlik, içine kapanma ve havada olmayan sineğin peşinden koşmak gibi şikayetleri olan 4 yaşında Cocker spaniel-terrier erkek köpek oluşturdu. Somatik nedenlerin ortadan kaldırılmasından sonra, öykü ve davranışsal inceleme temel alınarak disosiyatif sendrom teşhis edildi. 11 kg köpek (0.49 m²) için 0.5 ml Risperdal oral solüsyon 1 g/1 m², 100 ml (Eczacıbaşı) kullanıldı. Tedaviden önce ve tedaviden 1 ay sonra serum serotonin ve prolaktin düzeyleri ölçüldü. Tedaviden önce ve sonra, referans değerden yüksek bir serotonin (370.5-441.9 ng / ml) ve prolaktin (1.8-2.1 ng/ml) görülmemi. Klinik olarak çevreye karşı ilginin artması, sosyalleşme ve dikkat toplamada düzelleme tamamen kaybolmaya bile oldukça azalmış halüsitatif semptomları görülmüştür.

Anahtar Kelimeler: Disosiyatif sendrom, Köpek, Risperidon, Prolaktin, Serotonin, Halüsinsasyon

INTRODUCTION

Recently described dissociative syndrome is characterised by a progressive loss of relationships with the real world in favor of increasingly severe hallucinatory type episodes (Landsberg et al. 2003). Family prevalence is important. Prognosis is poor and almost 28% of animals do not seem to respond to the treatment (Pageat 2012). In the absence or lack of proper treatment, dissociation worsens and leads to severe cachexia (Landsberg et al. 2003). Symptoms of the disorder are categorised into two classes and diagnosis is based on the presence of the three of class 1 symptoms (Landsberg et al. 2003; Landsberg et al. 2012);

- Disorder appears between pre-puberty and 5 years age
- A growing loss of receptivity to the environment
- Existence of hallucinatory episodes with constant themes
- Stereotypes during hallucinatory episodes
- Dumb looking phases with somatosensory activity
- Existence of a pre-morbid stage of the avoidance or impulsive type

where the existence of at least one class 2 symptom confirms the diagnosis to the best of our knowledge, no study or case report exists addressing the syndrome in literature except the basic book information (Landsberg et

al. 2003; Landsberg et al. 2012) and the work of Pageat (2012).

CASE

4 years old Cocker spaniel-terrier mix, intact male dog referred to our university clinics with complaints including receptivity loss to the environment, inattentiveness, dumb-looking periods, activity avoidance, withdrawal, and snapping the air as fly chasing without a reason especially for the last 3 months. The owners were worried about the listlessness of their previously joyful and playful dog and also were quite worried about the sudden scary, unreasonable episodes of snapping the emptiness. They stated that their dog was alienating slowly day by day.

A comprehensive physical examination, serum biochemistry, urinalysis and complete blood count were performed and the absence of any disorders eliminated a primary somatic origin.

As described before (Landsberg et al. 2003; Landsberg et al. 2012), Class 1 symptoms of dissociative syndrome includes; (1) disorder appears between the pre-puberty period and five years, (2) a growing loss of receptivity to the environment, (3) existence of hallucinatory episodes with constant themes, (4) production of stereotypes during hallucinatory phases, (5) existence of dumb-looking phases with somatosensory activity, (6) existence of pre-morbid stage of the avoidance or impulsive type and Class 2 symptoms includes; (1) uni-or bilateral dilatation of the lateral ventricles, (2) presence of isolated peaks on the EEG, (3) demodicosis. History and behavioral examination revealed five of class 1 symptoms, so the dog was diagnosed as dissociative syndrome.

Treatment choices include selegeline and fluoxetine, but the results obtained with these two treatments were observed to be transitory (Landsberg et al., 2003). Risperidone is stated as the treatment of choice at a dose of $1\text{mg}/\text{m}^2$ once a day (Beata 2001; Landsberg et al., 2003; Landsberg et al., 2012). Risperidone, a representative drug of atypical antipsychotics, is a serotonin type 2 (5-HT_2) and dopaminergic D_2 receptor antagonist, used in human medicine in schizophrenia, bipolar mania and irritability associated with autistic disorder (Schotte et al., 1996). In dogs, it is also used in sociopathy stage 1 when the warning phases are still complete, social directed regression, sociopathies, impulsive aggression, hallucinatory type signs with considerable safety (Mannens et al. 1994; Meuldermans et al. 1994; Ader et al. 2005).

0.5 ml Risperdal oral solution 1 g/1 m, 100 ml (Eczacıbaşı) was used sid based on $1\text{ mg}/\text{m}^2$ dose for 11 kg dog (0.49 m^2). Before and 1 month after therapy, serum serotonin and, because of reported prolactin elevation (Meuldermans et al. 1994; Tian et al. 2014), prolactin levels were measured.

Before and following therapy, there was not a beyond reference value serotonin (370.5-441.9 ng/ml) and prolactin (1.8-2.1 ng/ml) difference (Corrada et al. 2006).

Significant clinical improvement regarding behavioral assessment, interactive behavior, relatively increased receptivity and contact, not completely lost, but faded and decreased hallucinatory symptoms were observed in the patient and these findings were consistent with the 5 month follow up examinations.

DISCUSSION

Average age of the dogs affected has been stated between 12-20 months, but generally disorder appears between pre-puberty period and five years (Landsberg et al. 2003; Landsberg et al. 2012). The present patient was 4 years old, concordant with the given age spectrum.

Family prevalence is important and the reported races most inclined are German shepherds, Bull terriers, Irish setters, Rottweilers, Dobermanns, Pyrenean Shepherds, and some cross breeds of Shepherds and Spaniels (Landsberg et al. 2003; Landsberg et al. 2012). Our patient was also a cross breed spaniel.

Dissociative syndrome in the dog has newly been described and this diagnostic category is not used in North America yet (Landsberg et al. 2003; Landsberg et al. 2012).

A similar condition, psychomotor seizures characterised by loss of contact with the external environment, by hallucinations of visual events, or by visceral sensations (tastes and smells) that are pleasing or distasteful is described in human medicine. They are accompanied by visceral motor activity, such as pupillary dilation, and by somatic motor activity consisting of wildly running around as though searching for something, along with an excessive expression of emotion (DeLahunta and Glass 2009). Also complex partial seizures (psychomotor seizures) have been observed in dogs that have lesions in the piriform lobe or hippocampus (DeLahunta and Glass 2009), representing similar symptoms. Therefore, dissociative syndrome may be suspected to be a kind of psychomotor seizure, but, to describe a disorder as a seizure, it has been stated that otonomic symptoms such as episodes with salivation, urination and defecation must be presented (Thomas 2010). As these symptoms are absent in the dissociative syndrome of dogs, seizure etiology can be eliminated, but the presence of peaks on the EEG which is among the Class 2 symptoms are still confusing.

CONCLUSION

In conclusion, dissociative syndrome must be considered in behavioral diagnostics and risperidone provided satisfactory effect and didn't change serotonin and prolactin levels. Dissociative syndrome is generally underdiagnosed, to the best of our knowledge there is no study on this topic. So the present paper is the first case report on the dissociative syndrome described and symptomatically treated in a dog.

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