 ISSN 2675-6617

The epileptic cat and family resilience

[*O gato epilético e a resiliência familiar*]

"Case Report/Relato de Caso"

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Abstract
Pets have become members of the families who adopt or purchase them, and the illness of a family member is known to impact the life of the family. Epilepsy is less common in cats than in dogs but is one of the major neurological manifestations in these animals and may be a model for discussing the impacts that chronic illness of a domestic animal brings to the family it belongs. The objective of this paper is to discuss family resilience – the ability of the family to adapt to cope with crises – from the case report of a cat with epilepsy, cared for by the authors, a family physician and a social psychologist. This experience inspired them to bring to the veterinary field some concepts and devices from their areas of knowledge. After an exposition of the clinical case and the feelings aroused in the couple, we discuss elements of illness in a family and the domains of family resilience to be considered in the care of animals with chronic diseases (belief system, organizational patterns and communication capacity), indicating some interventions that can be applied in veterinary care. This exchange of knowledge will help caregivers and veterinarians have a better experience when handling chronic illness, as they deal with its family impacts more properly and hopefully.

Keywords: cat disease; epilepsy; psychological resilience; chronic disease; family.

Resumo
Animais de estimação têm-se tornado membros das famílias que os adotam, e o adoecimento de um familiar sabidamente impacta na vida da família. A epilepsia é menos comum em gatos que em cães, mas é uma das principais manifestações neurológicas nesses animais e pode ser um modelo para discutir os impactos que a doença crônica de um animal doméstico traz à família à qual pertence. O objetivo deste artigo é discutir a resiliência familiar – a capacidade da família se adaptar para o enfrentamento de crises – a partir do relato do caso de um gato com epilepsia cuidado pelos autores (um médico de família e comunidade e uma psicóloga social). Essa experiência os inspirou a trazerem para o campo da veterinária alguns conceitos e dispositivos oriundos de suas áreas de saber. Após uma exposição do caso clínico e dos sentimentos despertados no casal, discutimos elementos do adoecimento em uma família e os domínios da resiliência familiar a se considerar na assistência a animais com doenças crônicas (sistema de crenças, padrões organizativos e capacidade de comunicação), indicando algumas intervenções que podem ser aplicadas na assistência veterinária. Esse intercâmbio de saberes pode ajudar cuidadores e veterinários a terem uma melhor experiência ao manejarem a doença crônica, por lidarem com seus impactos familiares de forma mais apropriada e esperançosa.

Palavras-chave: doenças do gato; epilepsia; resiliência psicológica; doença crônica; família.

Introduction

Convulsive seizures occur less frequently in cats than in dogs but are one of the major neurological manifestations in those animals. They may be secondary to infections, intoxications, metabolic disorders, neoplasms and other causes. When seizures are recurrent, they constitute *epilepsy* – which is often idiopathic in cats (Bailey and Dewey, 2009).

Recebido 21 de outubro de 2018. Aceito 09 de abril de 2020.
DOI: https://doi.org/10.26605/medvet-v14n3-2215

If pets have become members of the families that adopt them (Costa et al., 2009; Segata, 2012) and the illness of a family member is known to have an impact on family life (Dias, 2012; Duncan et al., 2013), it seems important to take a deeper look at the humans taking care of animals with chronic conditions.

The objective of this paper is to discuss family resilience – family's ability to adapt to cope with crises – from the case report of a cat with epilepsy cared by the authors, a family physician and a social psychologist. The experience of having a sick cat inspired them to bring some concepts and devices from family medicine and psychology into the veterinary field.

After an exposition of the clinical history of the feline and the feelings that his disease aroused in the couple, we will discuss some elements of illness in the family that can be considered in the care of domestic animals with chronic diseases, indicating some interventions that can be applied in veterinary care. Considering feline epilepsy as a model for discussing the impacts of a chronically sick pet on his family, this paper may help practitioners to assist families coping with the human issues involved in the health and care of their animals.

Description of the Case

The cat

Martin was an undefined male *Felis silvestris catus* whose black fur, craniofacial appearance and extremely affectionate behaviour resembled Bombay breed's (Fogle and Frith-Macdonald, 2006). He was found on a street gutter in September 2016 with few days of life by a friend of the authors, who gave them the cat with about two months of age. First called "Coal" by his finder, he was re-baptized by the childless couple in honour of Reverend Luther King.

In the first six months of life, Martin received three shots of calicivirosis, rhinotracheitis, panleucopenia and feline chlamydiosis vaccine and two vermifugations with pyrantel + praziquantel + ebantel. Since his adoption, the couple suspected that he had right visual impairment, for not following the movement of objects on that side, and ipsilateral hypoacusia, because of the little movement of this ear in response to the sound.

In March 2017, with about six months of age, the caregivers were awakened by the distressed meows and agitation of the cat, which soon presented muscle spasms, impaired gait, mydriasis, tachypnea and intense sialorrea. Agitation and sialorrea made them afraid of rabis, for the cat had not yet been vaccinated, but the hypothesis was unlikely because he lived in an apartment without contact with other animals. After this first polysymptomatic moment, the cat had a generalized tonic-clonic convulsive crisis lasting less than two minutes, after what he presented hoarseness and lethargy. Other crises followed in less than an hour and the cat was taken to the veterinary emergency room, where he arrived lethargic, mydriatic and feverish. He was given diazepam via rectum and intravenous dipyrone, with clinical improvement. The entry laboratory demonstrated increased ALT/TGP (252 UI/L) and hyponatremia (sodium of 141 mmol/L). Alkaline phosphatase, serum urea, creatinine and potassium were normal, as well as the hemogram and the total plasma protein dosage. No hemoparasites were observed. The hypotheses of febrile convulsion and intoxication were raised, but the only source wondered by caregivers was the bleach used in cleaning the bathroom. Martin was discharged with an ambulatorial referral and prescription of Mercepton®, an antitoxic compound of acetylmethionine, choline chloride, inositol, nicotinamide, calcium pantothenate and vitamins B2, B6 and B12. The couple quit the use of bleach in their house.

The cat did not feed or drink water within 24 hours after discharge, and thus was taken back to the veterinary hospital. He was given both pasty ration and venous hydration, and rapid tests were negative for feline immunodeficiency virus (FIV) and feline leukemia virus (FeLV). Abdominal ultrasonography performed during hospitalization found an increase of mesenteric lymph nodes (1.8 cm/0.9 cm), and the hypotheses of feline infectious peritonitis (FIP) or FeLV were suggested, even though the rapid test had been negative for the last. Martin returned to feed itself within a few hours of hospitalization and was discharged with referral to a veterinary neurologist, but the caregivers chose to take him to a general practioner recommended by the friend who donated the animal.

At the consultation, the cat convulsed while being examined, receiving rectal diazepam and an attack dose of intravenous phenobarbital. The veterinarian diagnosed feline epilepsy and prescribed daily oral phenobarbital. In June 2017, about nine months and weighing 4.7 kilograms, the

cat was receiving 16mg of phenobarbital (nicknamed by the authors "felinobarbital" and "fenobarbigato") every 12 hours – which amounts to about 3.4 mg/kg per dose. Still, he had about one crisis per week, which imposed the dilemma between increasing the dose to try to decrease the frequency of seizures, but risking more side effects, or to decrease the dose and get a more active cat, but with more crises. The seizures used to last less than a minute, with the animal recovering quickly.

Exams in May 2017 showed high AST (66 UI/L), which led the veterinarian to associate SAME (S.adenosil L-methionine) 90 mg/day orally for 60 days.

Status epilepticus and euthanasia

On the afternoon of August 9th, about 11 months old, Martin started to have repeated crises, without full recovery between them. Despite being readily taken to a nearby veterinary hospital, he arrived there in bad condition and was immediately sedated. Entry blood tests indicated serum creatinine of 0,9 mg/dL and ALT/TGP of 180 UI/L and urine analysis showed proteinuria and hematuria. Abdominal ultrasound showed little diminished liver echogenicity, augmented mesenteric lymph nodes, and an unechogenic content of moderate cellularity inside the bladder, suggesting an inflammatory alteration.

After two days of hospital care, the cat still showed agitation and roaming whenever not sedated and gave signs of neural sequels. The couple understood his life would be too hard from then on and decided for the euthanasia.

The caregivers

The couple of caregivers who writes this case report had no experience with cats. Despite their knowledge of human health, they faced the same challenges that any animal caregiver may face when their pet is sick. They asked themselves and assistant veterinarians about causes and differential diagnoses, the sequence of the investigation and the prognosis of each hypothesis that emerged. They spoke to acquaintances who raised cats. They hoped that a less serious illness (such as a transient intoxication) would be confirmed instead of a more serious disease (such as dry FIP).

The diagnosis of epilepsy thus brought some relief: they had then an animal with a chronic disease, but a treatment was available and it was said that the pet could live for many years with it. However, other questions were raised: was that what we were expecting when adopting a cat? Would we be able to take care of him? Wouldn't it be "unnatural" to subject an animal to a lifetime of psychotropic medication use, with behavioural and possible hepatic side effects, in addition to regular exams and occasional seizures even using medication? On the other hand, was it fair to consider euthanasia for an animal that, apart from his clinical condition and the care he requires, feeds, plays, purrs and brings us joy?

The changes the family lived were quick, varied, and required creativity. For example, to administer phenobarbital drops, caregivers dripped the medicine into a cup, sucked the content with an insulin syringe, checked the scale on the syringe and dropped the medication into the animal's mouth – as they soon discovered dripping directly into the animal's mouth was impossible. After each administration, they served the cat's meal to create a positive reinforcement for such an uncomfortable procedure.

The most transformative learning must have been about crises. The first ones were terrifying, but as they became less intense and scarce, the authors also learned that they were brief and very similar to each other. When the seizures became understood and their course, predictable, there was no longer despair, but patience. Also, not every deep meow was a prodrome of a crisis – an epileptic cat is still a cat, with its multiple sounds.

Another problem faced were friends' comments about a cat that had visual and hearing problems and took an anticonvulsant. "Doesn't this cat jump?" "He's kind of slow, huh?" "He's looking the wrong way" "Mine would have already destroyed the house" "No cat would stay so much time on the lap" Everybody noticed his limitations, but love allowed to recognize his abilities and potential day by day.

Martin passed away amid a marriage crisis and was an inevitable complicator of it. His death broke a link between the couple, who separated some months later.

Discussion

There are good reviews on the diagnosis, treatment and follow-up of feline seizures and epilepsy, such as Bailey and Dewey's (2009), Pakozdy et al. (2012) and Pakozdy et al. (2014). A detailed discussion is not in the scope of this paper, but some points are worth mentioning.

Bailey and Dewey (2009) point out that, regardless of whether there is a primary cause requiring specific treatment, feline epilepsy should be treated promptly. In the words of Pakozdy et al. (2014), "an aggressive, early start of treatment can be beneficial, as the cat could avoid cluster seizures and refractory epilepsy. The decision to start treatment should be taken on a case-by-case basis after considering the severity of seizure, ictal signs, risk of treatment, owner compliance, serum monitoring possibilities, and the difficulties with long-term oral application."

The first choice for the treatment of feline epilepsy is phenobarbital, at an initial dose of 2.5 mg/kg every 12 hours and a maintenance dose of 1 to 5 mg/kg, also twice daily. Side effects include sedation, polyphagia (and consequent weight gain), polyuria and polydipsia. The risk of hepatotoxicity, a well-known complication of this treatment among dogs, seems minimal among felines (Bailey and Dewey, 2009; Pakozdy et al., 2014). Antiepileptic treatment might be required for life, and gradual reduction in treatment can be considered after 6 to 24 months without seizures. Abrupt discontinuation is contraindicated (Pakozdy et al., 2014).

It is important to note that the prescription of anticonvulsants should not be exclusive to veterinary neurologists. Article 7, item IV of the Veterinary Code of Ethics establishes that any veterinarian physician is allowed "to prescribe treatment that he deems most appropriate, as well as to use the human and material resources he deems necessary for the performance of his activities" (CFMV, 2017). This means much to animals and caregivers who won't have to live or witness convulsions for days before they get a consultation with a neurologist – not always available and/or payable. Moreover, an early start of phenobarbital treatment, after only a few seizures, is related to a better outcome than if phenobarbital treatment commences after many seizures and a longer time (Pakozdy et al., 2012), and the rapid improvement of the animal might bring a different perspective to caregivers considering euthanasia.

We saw how a pet's disease may impact his caregivers, who, in turn, influence the illness and wellness of the first. So how to support families in situations such as feline epilepsy?

Family resilience

Families respond differently to the various life crises, and that difference has a lot to do with family resilience. For physics, resilience is the ability of a body to return to its original form after undergoing an elastic tension – like the high-heeled stick, which bends under the athlete's weight and then hurls him into the air. In the case of families, resilience is their ability to "overcome adversities without major consequences, becoming even stronger" (Duncan et al., 2013) – in other words, a family's ability to cope with life's crises and stresses ("tensions") without physical or mental breakdowns (which physics would call "permanent deformations"). Fundamental in the family approach performed by family physicians/general practioners, it is related to themes such as empathy and social network (Dias, 2012).

According to Walsh (2005) and Duncan et al. (2013), family resilience is composed of three domains, each one with its possible components and interventions: belief system, organizational patterns and communication capacity. Here we bring recommendations that seemed most easily applicable to the veterinary context, leaving bibliographical references for further study.

The *belief system* includes the search for meaning in adversity; the positive view of things; and transcendence and spirituality. In this field, the professional can encourage the family to make sense of events (including, but not limited to, religious aspects); explore previous family experiences with disease and illness; and learn the values of different family members on issues relevant to the disease in question (*e.g*, how much they wish to invest in diagnostic and therapeutic resources). Caregivers may feel guilty about their tiredness and consider drastic solutions: it is important that the consultation office be an open and welcoming space for these issues to arise. In addition, many caregivers are older people (Costa et al., 2009), who may have financial or personal troubles when divided between caring for the animal and caring for themselves.

Organizational standards include flexibility; the connection between family members; and its social and economic resources. The professional might, for example, map the family and its support network, seeking to mobilize its members and broaden it, as well as clarify the families about the financial and affective costs of each procedure.

It is important that the veterinarian is flexible in his prescriptions and attentive to the possibilities

of the families: in the case of epilepsy, some may be able to buy only phenobarbital, but not SAME, for example. Others may agree to perform blood tests but not imaging. Bailey and Dewey (2009) recommend performing a nuclear magnetic resonance imaging or computed tomography of the cranium to find the primary causes of feline epilepsy, but these are expensive, little available and not free from side effects (due to stress and general anaesthesia, for example). Still others may be so burdened and affected by caring for an animal with a chronic illness that it may be necessary to consider a new home for the pet. Euthanasia has always been a common way to deal with animals with severe or incurable disease, but veterinary palliative care has been growing as an alternative. Nevertheless, Brazilian schools of veterinary give little or no attention to topics as death, dying and palliative care in their curriculums (Lesnau and Santos, 2013).

The domain of *information capacity* includes clarity; open emotional expression and the collaborative problem-solving process. In this sense, the veterinary physician can encourage family members to talk openly and clearly about the disease and the aspects that it involves and stimulate problem solving together. In addition, one should avoid triangulations, such as allying one family member over another(s).

After the initial phase of diagnosis and initiation of chronic disease treatment, many families find a new balance, with much less suffering. Common problems in this period are reduced adherence to treatment (in the face of a controlled disease), decompensation due to new crises (not always related to treatment problems), or progressive worsening of the condition. They will bring new challenges to family resilience and the professional (Duncan et al., 2013).

Conclusion

The place of domestic animals in contemporary times and the therapeutic resources available make pets with chronic diseases, previously commonly sacrificed, spend long periods receiving health care – which brings financial, affective and daily impacts to the families who care for them. The case of a cat with epilepsy discussed here showed how the concept of family resilience can be useful for veterinary work, and we suggested some interventions that seem feasible in this field.

We hope that this exchange of knowledge will help caregivers and veterinarians have a better experience when handling chronic illness, as they deal with its family impacts more properly and hopefully.

Conflicts of Interest

The authors declare that there are no conflicts of interest.

Acknowledgements

We are deeply thankful to veterinary physician Bruna Bianchini Real for the revision of the manuscript, as well as for her suggestions and encouragement.

References

Bailey, K.S.; Dewey, C.W. The seizuring cat: diagnostic work-up and therapy. **Journal of Feline Medicine and Surgery**, 11:385-394, 2009.

Conselho Federal de Medicina Veterinária (CFMV). **Resolução n. 1138, de 16 de dezembro de 2016. Aprova o Código de Ética do Médico Veterinário**. Diário Oficial da União, 25 jan 2017, seção 1, p. 107-109.

Costa, E.C.; Jorge, M.S.B.; Saraiva, E.R.A.; Coutinho, M.P.L. Aspectos psicossociais da convivência de idosas com animais de estimação: uma interação social alternativa. **Psicologia: Teoria e Prática**, 11(3): 2-15, 2009.

Dias, L.C. Abordagem Familiar. In: Gusso, G.; Lopes, J.M.C. **Tratado de medicina de família e comunidade: princípios, formação e prática**. Porto Alegre: Artmed, 2012. v. 1, p. 221-232.

Duncan, M.S.; Goldraich, M.A.; Chueiri, P.S. Cuidados longitudinais e integrais a pessoas com condições crônicas. In: Duncan, B.B.; Schmidt, M.I.; Giugliani, E.R.J. (eds.). **Medicina ambulatorial: condutas de atenção primária baseadas em evidências**. 4ª ed. Porto Alegre: Artmed, 2013. p. 892-904.

Fogle, B. **Eyewitness companions: cats**. New York: Dorling Kindersley Publishing, 2006. 319 p.

Lesnau, G.G.; Santos, F.S. Formação dos acadêmicos de medicina veterinária no processo de morte e morrer. **Bioscience Journal**, 29(2): 429-433, 2013.

Pakozdy, A.; Sarchahi, A.A.; Leschnik, M.; Tichy, A.G.; Halasz, P.; Thalhammer, J.G. Treatment

and long-term follow-up of cats with suspected primary epilepsy. **Journal of Feline Medicine and Surgery**, 15(4): 267-273, 2012.

Pakozdy, A.; Halasz, P.; Klang, A. Epilepsy in cats: theory and practice. **Journal of Veterinary Internal Medicine**, 28: 255-263, 2014.

Segata, J. **Nós e os outros humanos, os animais de estimação**. Tese de Doutorado, Florianópolis (SC): Universidade Federal de Santa Catarina, 2012.

Walsh, F. **Fortalecendo a resiliência familiar**. São Paulo: Roca, 2005. 328 p.