

C.A.B.T.S.G.
INTERNATIONAL VETERINARY BEHAVIOUR MEETING

DAY TWO

SESSION TWO

**ANXIETY AND ITS ROLE IN BEHAVIOURAL
DISORDERS.**

CHAIR:

SARAH HEATH.

Anxiety In Cats

J. Dehasse

129 avenue de la Fauconnerie, 1170 Brussels, Belgium -

Introduction

Anxiety has been defined as an emotional state accompanied by behavioural and autonomous reactions analogous to fear, when there is the least change in the internal or external environment. Anxiety leads to disorganisation of self-control and to loss of adaptability. Anxiety is not only the anticipation of danger, and it is not fear even if one may observe behavioural sequences found in fear: inhibition, escape and avoidance, fear aggression, and displacement activities. Anxiety and maladjustment are pathologies. Anxiety is a kind of a chaos of the cognitive and emotional spheres.

Clinical signs and symptoms

In this model, cat anxiety will be divided in three groups based on the invalidation in time: paroxysmal, intermittent and permanent anxieties. The specificities for each of these groups will be given for the presence, the absence or the modification of several specific parameters: defence aggression, inhibition, scanning behaviour, displacement activities (for example lick- alopecia), (facial, urinary and scratching) marking behaviours, etc.

Anxiety	Invalidation	Primary organ.S.	Defence aggress	Displacement act.
Paroxysmal-fit	in fits	++++	0/(+)	0
Intermittent	periodical	+++	+++	+
Permanent	continued	0/+	0/+	+++

Table 1. Clinical signs and symptoms

Diarrhoea of the large intestines	Dopaminergic system
Dyspepsia (rare)	Dopaminergic system
Emotional urination	Noradrenergic system
Ptyalism*(frequent)(hypersalivation)	Dopaminergic system
Tachycardia (tachypnea)-rare	Noradrenergic system

Table 2. Primary organic symptoms.

Irritation and fear aggressions	(Pageat, May 1996)
Irritation aggression: Social spacing	Threat with squat body posture, passage from sitting position to ventral decubitus: hiss, mydriasis, hair bristled up, ears down, slaps, simulations of attack
Irritation aggression: Contact rupture	Threats with crouched body posture, passage to sitting to lateral or dorsal decubitus, all claws and teeth bared: no simulations of attack.
Fear aggression	Short threatening phase, no control of the bites and scratches, autonomous response.

Table 3. Irritation and fear aggressions.

Displacement activities.

Alopecia, as a consequence of excessive self-licking, are the most frequent, then bulimia and potomania.

Extensive alopecia is only a symptom of anxiety. Treatment will be different if it is a displacement activity or a stereotypy. The dyssymmetry (predominance on the left part of the body) observed in dogs is not found in cats.

Kinds of alopecia	Symptom of:
Simple localised alopecia, anxiety, on a precise spot (sometimes an old scar, the spot of an old pain,...)	Intermittent anxiety, Permanent anxiety
Alopecia (or lick granuloma) on the tip of the tail	Permanent anxiety, stereotypy, involutive depression
Multiple localised alopecia	Intermittent and permanent anxieties
Extensive alopecia	Intermittent anxiety, Permanent anxiety, stereotypy, chronic depression, atropy,

Table 4. Alopecia

Territorialisation.

This is the building and maintenance of territorial fields. These fields are in an unstable equilibrium in a constantly variable environment. Territorialisation asks for a constant adaptation of the different markings. A loss of adaptability signals a pathological state (anxiety, depression).

Anxiety	facial marking	urinary spraying	Scratching	Avoidance marking.
Paroxysmal-Fit	=	=or+	=	=or+
Intermittent	++ or --	+or-	+* or =	+ (anal sacks)
Permanent	-	-	-	+(perspiration)

Table 5. Clinical signs and symptoms* multiple places in the familiar surroundings

Other peculiarities of cat anxiety. They are summarised in tables 6 and 7.

Anxiety	Inhibition	Exploration	Rolling Skin Syndrome	predatory agg.*
Paroxysmal-Fit	=	=or+	=	= or + same h.
Intermittent	++or--	Hypervigilance	+	+ variable hour
Permanent	+++	partial -	+or0	0

Table 6- Clinical signs and symptoms. *on people (owners)

Anxiety	Flehmen	Sleep
Paroxysmal-Fit	=	=
Intermittent	++	Insomnia*-Hypersomnia
Permanent	partial--	Insomnia*-Hypersomnia

Table 7. Clinical signs and symptoms. *Insomnia with normal sleep patterns, with awakenings every 1 to 2 hours.

Classification of clinical pictures of anxieties

Different clinical pictures have been recognised and standardised in French-speaking Europe.

Anxieties usually first diagnosed in kittens or in adolescence	<u>Deprivationsyndrome</u> <u>Separation anxiety (rare)</u> The cat-toy syndrome
Anxieties from a somatic affection	<u>Algic (painful) states anxiety</u> Anxiety in hyperthyroidism
Substance related anxieties	Hallucinogenic eidolies
Anxieties usually diagnosed in adults	<u>Deterritorialisation anxiety</u> <u>Anxiety in close surroundings</u> <u>Cohabitation anxiety</u> <u>Deritualisation anxiety</u> Anxiety syndrome (unspecified)

Table 7. Anxiety disorders. Several of these anxiety disorders will be described.

Cat anxiety syndrome (unspecified)

Description.

This section groups anxiety clinical cases not described elsewhere in specific classifications.

Aetiology.

Anxiety disorders result from external factors (evolution from a phobia, paradoxical communication, inescapable situation,..) or from internal factors (hormonal imbalance, painful disease, ...).

Evolution.

Paroxysmal anxieties are stable. Intermittent anxieties evolve to hyperaggression (instrumental conditioning from defence aggression), permanent anxiety (increase of inhibition), dysthymia. Permanent anxieties are stable or evolve towards chronic depression.

Diagnosis.

It is based on the appearance of the symptoms described in the tables.

Differential diagnosis.

Cat Anxiety Syndrome (unspecified) has to be differentiated from other specific anxiety disorders. Intermittent anxiety must be differentiated from somatic diseases. Permanent anxiety has to be differentiated from chronic infectious diseases. A diagnosis of organic disease (hyperthyroidism, ...) does not exclude an anxiety disorder.

Prognosis.

It is generally favourable. It is reserved for intermittent anxiety because of instrumentalisation of defence aggression and the rupture of the human-animal bond.

Treatments.

Drug treatment will be individually defined according the symptoms. One can use the following model of brain aminergic neurotransmission to define the drugs of choice.

System	Symptoms	Psychotropic drug
NA++	hypervigilance, soft faeces, mydriasis flehmen, ...	propranolol, lithium, F3, pheromones
DA++	diarrhoea, aggression	tiapride, sulpiride, selegiline
DA--	inhibition, lack of exploration, lack of social initiative, dysorexia, stereotypy (extensive alopecia), hyposomnia, insomnia, ...	sélégiline, F3 pheromones
5HT--	licking alopecia, anorexia, bulimia, insomnia, inhibition, (aggression), ...	clomipramine, trimipramine, fluoxetine, paroxetine, F3 pheromones
Other	starting from noise	trioxazine, benzodiazépine, F3 pheromones.

Table 8. Drug choice with the aminergic neurotransmission model

Behavioural therapy.

It will be adapted to each case: habituation, desensitisation, counterconditioning, ...

Deprivation anxiety

This syndrome is very similar to the one described in dogs. Cats that have lived their development in poorly stimulating surroundings may not adjust in richer environments when adult. But people find it normal for a cat to be fearful, so they do not consult for it.

There are two main disorders.

Intermittent deprivation anxiety in cats not socialised to people et forced to live with them: you may find anorexia in the presence of people, feeding at night, limited scanning fields, hypervigilance, hyposomnia, fear aggression on people manipulating the cat, ...

Permanent deprivation anxiety in cats not imprinted to the external environment, acquired at a very young age, with imprinting and hyperattachment to one owner: infantilism, sucking on owner and woollens, separation anxiety.

Deterritorialisation anxiety (DTA)

Description.

Anxiety with alteration of facial marking and production of urinary marking. This is the main reason for consulting.

Pathogeny and symptoms.

The disruption of the territorial appeasing markings leads to increased facial marking (appeasing), scratching and urine spraying (excitement). There are two stages. 1- reactive urine spraying on limited spots from a excited or fearful cat. 2- increased urine spraying in anxious cats. In this case, the owners have frequently punished the cat (long) after the spraying sequence. There is also deritualisation.

Evolution.

This may lead to instrumental spraying and general soiling.

Treatment.

F3 analogous pheromones (Feliway®) will easily treat reactive deterritorialisation. Psychotropic drugs will be needed for deterritorialisation anxiety.

Therapy.

Reterritorialisation may be necessary. Putting the cat in a small room with the help of F3 pheromones for a week may help appease him, before scanning the larger surroundings.

Anxiety in closed surroundings

Description.

Cats may not adapt easily to a life in small, closed, areas. They may develop anxiety accompanied by redirected predatory aggression on people.

Pathogeny and symptoms.

A favourable factor may be the development of the kitten in a stimulating environment (outside, access to external environment) before shutting him inside a hypostimulating apartment. 90% of the cats shut in closed surroundings may present fits of hyperactivity with or without predatory aggression redirected on people's ankles or hands. These behavioural sequences may become stereotyped.

Evolution.

From a reactive desire of activity due to a hypostimulating environment, the cat may become anxious and hyperaggressive (instrumental conditioning of aggressive sequences). There is no spontaneous cure. A first stage may be helped by enrichment of the environment (moving decoys to redirect hunting behaviour, frequent meals). Hyperaesthesia may lead to lick alopecia.

Diagnosis.

Anxiety - fits of hyperactivity - rolling skin syndrome - irritation aggression - hypervigilance, primary organic symptoms (salivation, diarrhoea), secondary organic symptoms (alopecia), avoidance markings (and perspiration) - hypostimulating living environment for a cat reared up in a more stimulating environment.

Treatment.

If the enrichment of the environment is not sufficient, drugs will be necessary.

Therapy.

Stimulating objects and decoys. Frequent meals.

Cohabitation anxiety

Description.

Cats who have to live together may present different patterns of degradation of their emotional states and communicative skills. Two cats (at least) are acting a drama in 3 stages, with the frequent involuntary help of the owners.

Aetiology.

It may be the arrival of a new cat, but also the return of a cat that has been hospitalised, anaesthetised, that is sick, old, confused, ...

Evolution.

There is a passive and an active cat.

1- Aloofness: in the first stage, both cats are increasing the distance between themselves and their own fields.

2- Skirmish: in the second stage, the moving (escaping) passive cat is attacked by the active one and followed; the passive cat activity fields are invaded by the active cat.

3- Obsession: the hypervigilant, hypersensitive, hyperactive cat (rolling skin syndrome, tail restlessness, redirected aggression on objects and people moving around, localised alopecia.)

is invading the isolation fields of the passive, inhibited, fear-aggressing, self-licking (extensive alopecia) cat.

Differential diagnosis.

It is very important to find out if one or both cats are not suffering from anything else than anxiety, like dysthymia, hormonal imbalance, ...

Treatment.

It will vary with each stage.

1- F3 pheromones.

2- clomipramine, fluoxetine, tiapride, sulphiride, for the active cat. Selegiline, clomipramine, trimipramine, for the passive cat.

3- Selegiline for both cats. P. Pageat has described a therapeutic protocol with hospitalisation of both cats in separate but contiguous cages (with an increasing opening between the cages), with F3 pheromones, selegiline treatment. There are positive results in 76% of the cases.

Other anxiety disorders

Several clinical pictures of anxieties may be briefly presented: anxiety in hyperthyroidism, after the use of ketamin, in algic states, separation anxiety, and deritualisation anxiety.

Conclusions

Anxiety is not fear, it is not phobia. It is a pathology; fear is not. Clinical observation has lead several authors to describe peculiar anxiety disorders and treat them effectively.

References

- Béata C. (1996). L'anxiété chez le chat, Cours de base du GECAF, Toulouse 1996, 277-286.
- Dehasse J. (1990). Comportement du chat en consultation, Premières Journées de Porquerolles, CNVSPA Sud-Est, 28/30 sept. 90.
- Dehasse J. (1995). Le chat agressif. Secondes journées nationales du GECAF, Porquerolles, 13-16 sept. 95.
- Dehasse J. (1996). Les conduites agressives chez le chat, Cours de base du GECAF, Toulouse 96, 255-271.
- Pageat P. (1994). Les conflits territoriaux chez le chat. Présentation d'un nouveau protocole thérapeutique. 1er congrès européen CNVSPA-FECAVA, Paris, Nov. 1994, 847-49.
- Pageat P. (1996). Communication et territoire chez le chat, Cours de base du GECAF, Toulouse 96, 248-254.
- Pageat P. (1996). Sémiologie comportementale chez le chat, Cours de base du GECAF, Toulouse 96, 287-301.