INDIRECT MEASURES FOR THE DETECTION OF CHRONIC STRESS IN DOMESTIC CATS

Cristina González Cano
Faculty of veterinary medicine, June 2018

OBJECTIVES:

The cat is one of the species with the greater risk of suffering stress among companion animals.

The objective of this work is to compile the published findings of stress developing, stress manifestation in domestic cats and the diagnostic measures that are available making emphasis on those techniques that are non-invasive.

WHY THE CAT?

Punishments

Predator Behaviour

Enviormental Enrichment
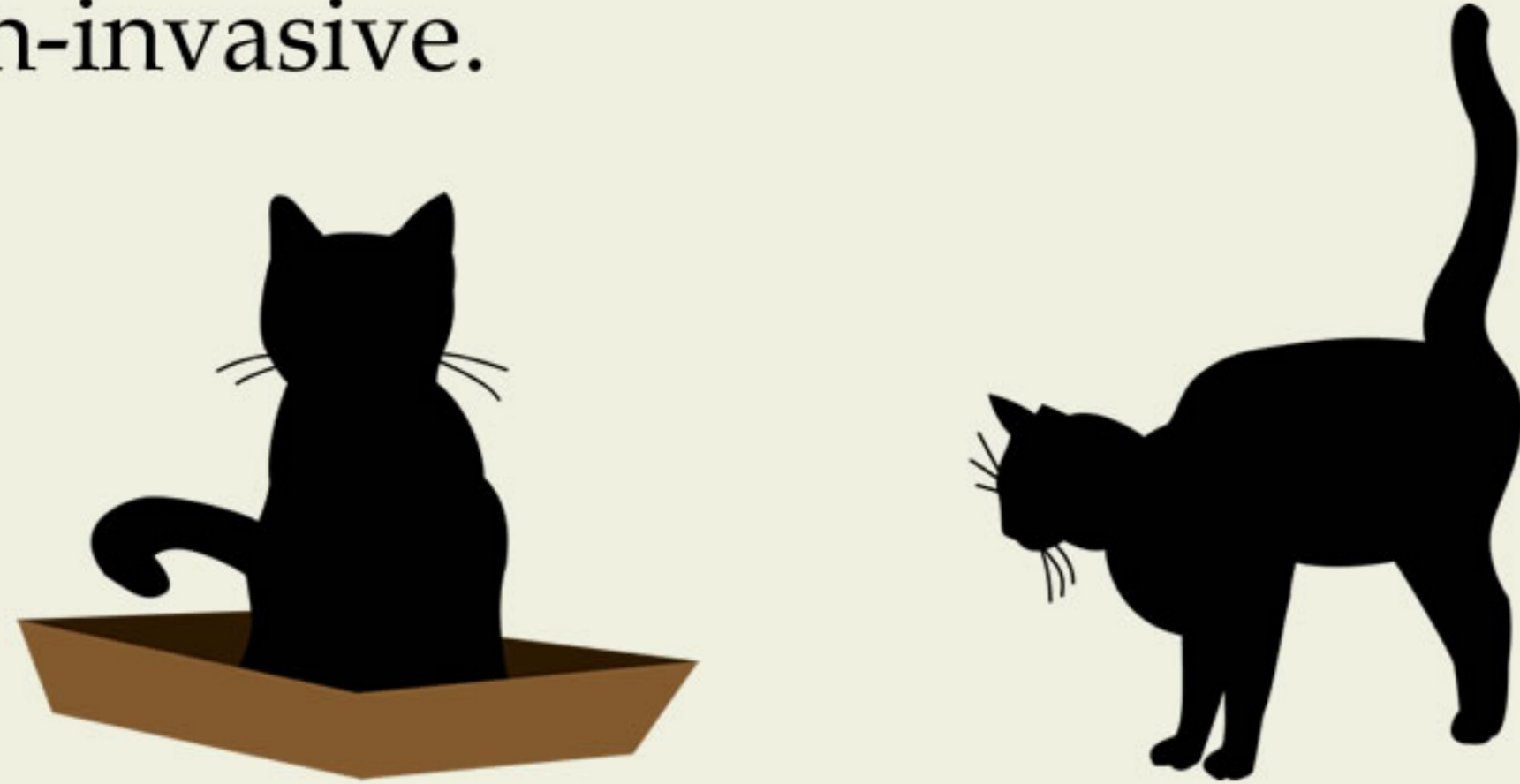
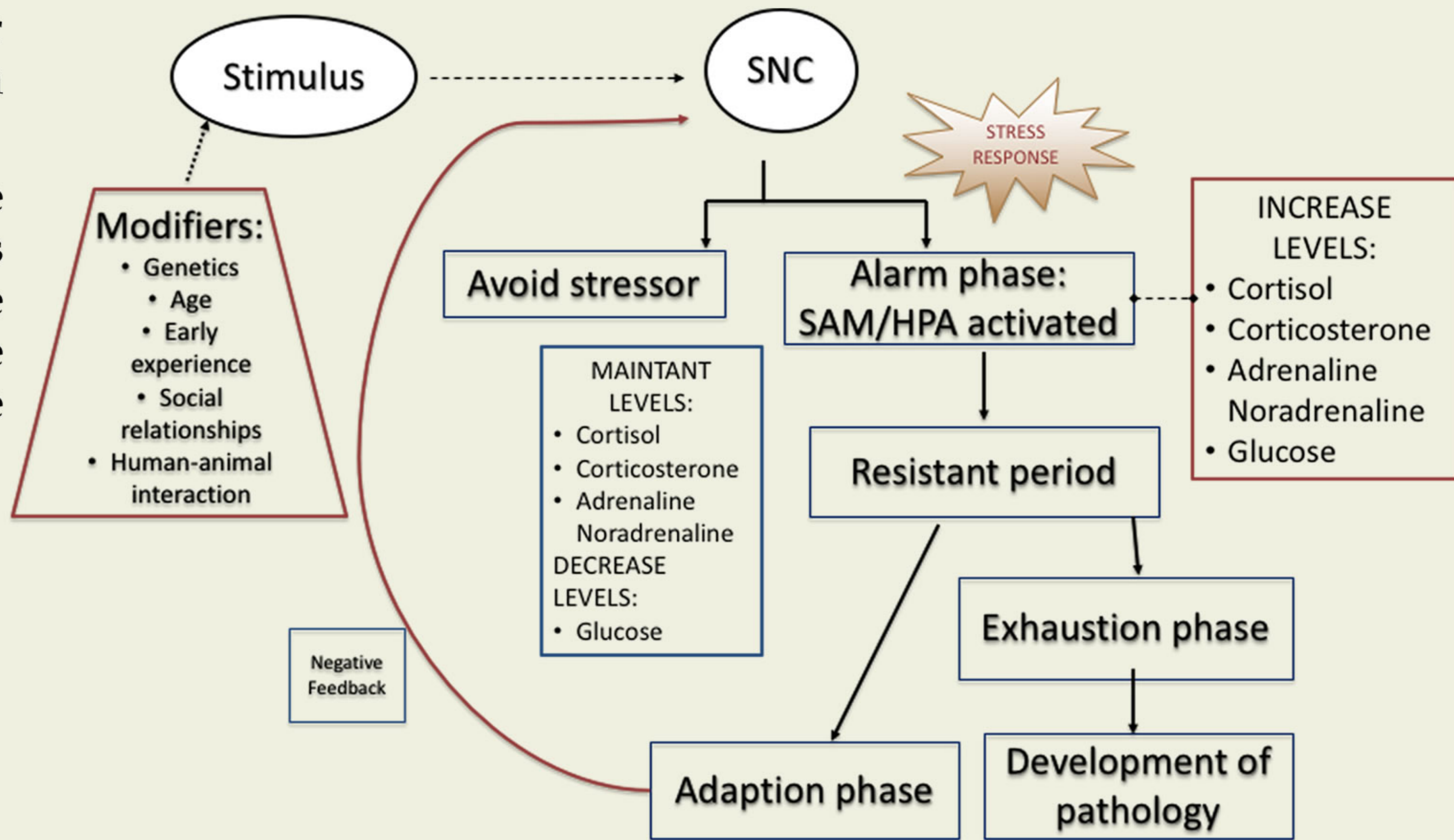Abandonment or Euthanasia

STRESS PATHWAY:

Figure 1, Stress and the evolution of the stress response. Adapted from Moberg, Gary P. (2000)

MODELS:

Table 2: Different models of corticosteroid detection

MODEL	INVASIVE	TYPE	PROS	CONS
BLOOD	+ + +	Acute stress	- Lab conditions	- Impractical - Induces stress - Not in long-term
SALIVA	++	Acute stress		- Handling
URINE	+	Acute stress	- Can assess stress response	- Spray urine - Impractical - Handling - Individual differences
HAIR	+	Chronic stress	- Relatively easy - Non health hazards - Preservation - Long term profile - No modified by handling stress	- Incomplete hair physiology - Slow growth hair - Alopecic breeds
FAECES	- - -	Acute/Chronic stress	- Non handling needed - 86% cortisol metabolites excretion - Accepted method - Samples collected in daily sandbox routine	- Constipation - Faecal flora - Multi-cat house

BEHAVIOUR CHANGES:

Table 1: Changes in the behaviour due to stress.

Behaviour and Frequency	
Feed intake	↓ (usually)
Grooming	↑ (usually)
Facial marking	↓
Activity (play and explore)	↓
Interactions with cats/humans	↓
Vocalisation	↑
Vigilance	↑
Hiding	↑
Urine (spraying)	↑
Aggressive behaviour	↑
Compulsive behaviour	↑

Modified from Amat et al. 2016

CONCLUSIONS:

The cat is the most susceptible domestic animal to stress.
Misunderstanding of its natural behaviour.
Biochemical parameters can be measured.
Faeces and hair cortisol are the most suitable models.

FACULTAT DE VETERINÀRIA

UAB
Universitat Autònoma de Barcelona