

209. Rochlitz, I., Podberscek, A.L. and Broom, D.M. 1995. The behaviour and welfare of cats in a quarantine cattery. In: *Proc. 29th Int. Cong. Int. Soc. Appl. Ethol.* ed. S.M. Rutter, J. Rushen, H.D. Randle, and J.C. Eddison, 125-126. Potters Bar: Universities Federation for Animal Welfare.

The behaviour and welfare of cats in a quarantine cattery

I. Rochlitz, A.L. Podberscek, D.M. Broom

Animal Welfare and Human-Animal Interactions Group, Department of Clinical Veterinary Medicine, University of Cambridge, Madingley Road, Cambridge CB3 0ES, UK

Introduction

The UK Rabies Order (1974) states that every cat imported into Great Britain must be detained and isolated in approved quarantine premises for six months. Cats are confined to a small, enclosed space, and are relatively isolated from people and from other animals. In this study, behavioural observations and changes in urinary cortisol output are used to assess the welfare of cats in quarantine.

Materials and Methods

Seven cats, housed singly in a quarantine cattery, were observed. Cats arriving at the cattery were filmed for the first three days of the first week (days 1, 2 and 3), the first three days of the second week (days 8, 9 and 10), and the first three days of the fifth week (days 30, 31 and 32), and then for one day a month from the third to sixth month of quarantine (day 60 in week 9, day 90 in week 13, day 120 in week 17 and day 150 in week 21). Fourteen mutually exclusive behaviours were noted, as well as the location of the cat in the cage. This information was recorded continuously for the first five minutes of every half hour, from 06:00 to 20:00, and the percent time (minutes/total time observed) of each behaviour was calculated, as well as the percent time spent in different locations in the cage. The presence of a person in the cat unit or in the cat's cage was also recorded.

Changes in urinary cortisol output have been used to measure stress sensitivity in domestic cats (Carlstead et al 1992, 1993). In the present study, urine samples were collected once daily, from modified litter trays, on the days of the observations. Cortisol was analysed using a radioimmunoassay technique (SCL Bioscience Services Ltd., Cambridge), and cortisol concentrations were indexed by urinary creatinine concentration to account for changes in fluid balance.

Behaviour, location and cortisol concentrations over the thirteen days of observation were compared using Friedman's two-way analysis of variance. Post-hoc comparisons were made between days in weeks 2, 5, 9, 13, 17 and 21 and the first day in quarantine.

Results

Cats spent significantly less time ($p < 0.05$) out of sight, concealed in a small cat house on the floor of their cage, on days 31 and 32 (week 5) and on subsequent days 60, 90, 120 and 150, compared with day 1. By week 5, cats groomed more ($p < 0.01$, days 31 and 32) and slept more ($p < 0.01$, day 32), and more time was spent on the shelf in the cage ($p < 0.01$, days 30, 31 and 32). These increases in sleeping, grooming and time spent on the shelf were maintained during the following months in quarantine. Rolling and stretching behaviour was significantly increased ($p < 0.05$) on day 8, and showed a tendency to increase ($p < 0.1$) on days 10, 30, 31, 32, 60, 90 and 150. Locomotion was significantly increased ($p < 0.05$) on days 8, 32, 90 and 150, and showed a tendency to increase ($p < 0.1$) on days 30, 31, 60 and 120.

Urinary cortisol concentration was significantly lower ($p < 0.05$) on day 32 and on subsequent days, compared with the first day in quarantine. A person was present either in or near the cats cage for between 1 and 8 percent of the time observed; this did not change significantly during the days of observation.

Conclusions

These results show that it takes between two and five weeks for cats to show evidence of adaptation to their new environment in quarantine. During the first month, hiding in a concealed place was an important behaviour for dealing with a new environment. By the fifth week, cats spent less time hiding in their cat house; and more time in an elevated and exposed location, such as the shelf. From day 31, cats groomed and slept more while not concealed, suggesting that the animal was more confident in its environment. This conclusion is supported by the increase in comfort (rolling and stretching) and locomotory behaviour in the second and fifth weeks, and by the decrease in urinary cortisol concentration from day 32. The cats had a limited amount of time in contact with humans.

This study will help in the development of sound scientific guidelines on how to ensure the optimal welfare of domestic cats kept in quarantine premises, and in other restricted environments such as boarding catteries and research laboratories.

References

- Carlstead, K., Brown, J.L., Monfort, S.L., Killens, R. and Wildt, D.E., 1992. Urinary monitoring of adrenal responses to psychological stressors in domestic and nondomestic felids. *Zoo Biol.*, 11:165-176.
- Carlstead, K., Brown, J.L. and Strawn, W., 1993. Behavioural and physiological correlates of stress in laboratory cats. *Appl. Anim. Behav. Sci.*, 38:143-158.