Pinch-induced behavioural inhibition (clipthesia) as a restraint method for cats during veterinary examinations: preliminary results on cat susceptibility and welfare

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Abstract

Cats are often subjected to minimally painful or forced procedures during routine clinical practice, which can be poorly tolerated, leading veterinary surgeons to need to offer physical restraint, usually aided by an assistant. The aim of this study was to assess the effectiveness and ultimate welfare implications of using clippers as a method of restraint during veterinary examination. This was carried out in a real clinical setting and compared to manual scruffing. Twenty-seven cats were restrained, during a veterinary examination, using two stationery clips placed on the skin along the cervical dorsal midline, whilst a group of 13 cats were restrained through gentle manual scruffing. Susceptibility to clippers (ie a positive clip score) was observed in 81.5% of cats, while a complete response was found in 40.7% of subjects. The presence or absence of a disease/condition did not affect the susceptibility. Heart rate and the number of cats showing mydriasis (pupillary dilation) was statistically higher during manual scruffing, whilst plasma cortisol did not differ between the two groups. The more responsive the cats were to clippers, the more they displayed kneading and purring. These preliminary findings suggest that clippers is not more stressful than manual scruffing in restraining cats during a veterinary examination. However, not all cats were found to be susceptible to this method of restraint. Further research is needed to clarify whether clippers should be implemented as a matter of course in veterinary practice from the point of view of welfare and safety.

Keywords: animal welfare, cat, clippers, clipthesia, scruffing, veterinary examination

Introduction

In many vertebrate and invertebrate species, it is possible to trigger a state of profound immobility and relative unresponsiveness (usually called immobility reflex or animal hypnosis) through different types of sensory stimulation (Klemm 1971; Galup & Gordon 1974; Amir et al 1981). There seems to be four categories of conditions that facilitate such a state: repetitive stimulation; pressure on body parts; inversion; and restraint. This kind of immobilisation is associated with a lower reactivity to external stimuli, while the muscular tone is preserved. Flexor and extensor muscles can be contracted simultaneously, resulting in the maintenance of an awkward, immobile posture (Klemm 2001). The existence of a behaviour arrest system (BAS) has been hypothesised (Klemm 2001), which actively antagonises the onset of the movement and its maintenance. The neurophysiological basis of these so-called behavioural arrests has been identified via an inhibition of the dopaminergic system (Fleishmann & Urca 1988). In fact, the neurophysiological mechanism producing the motor inhibition and a reduction in the alert status is similar to that produced by some dopaminergic blocking drugs, such as antipsychotic drugs that induce ataraxia, ie reduced responsiveness to both innocuous and noxious external stimuli (Fleishmann & Urca 1988; Crowell-Davis & Murray 2006).

During routine clinical practice, cats are frequently subjected to minimal painful or forced procedures (such as blood withdrawal, nail clipping, measurement of rectal temperature, and lateral decubitus for x-rays). Such procedures are often poorly tolerated by cats, and consequently veterinary surgeons need to physically restrain the cat, usually with the help of an assistant. Manual scruffing prevents cats from escaping, but often leads to an increase in fear and aggression, and also to changes in physiological parameters, that make the examination less accurate. In order to promote cat welfare and safety to people, the last few years have seen new methods of restraint proposed. For instance, Leedy et al (1983) suggested using a rubber band around the base of the cat’s ears whenever a practitioner needed mild restraint, especially in the absence of any assistants. Much interest surrounded the idea of clippers — a behavioural inhibition induced by pinches placed on the dorsal neck skin (McCune 2010) — which has increasingly been used as an alternative method of restraint in cats. However, few studies have investigated the effectiveness of this method and its effect on cat welfare. Tarttelin (1993) pioneered the use of different clips applied to different areas of the body. Pozza et al (2008) found the greatest response by attaching the clips to the dorsal neck area. Analysing the