ACUTE PAIN IDENTIFICATION AND STAGING

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RECOGNITION OF PAIN

The morbidity associated with acute and chronic pain and associated welfare aspects have led to multiple attempts to create efficient and comprehensive tools to recognize and assess animal pain qualitatively and to some extent, quantitatively. Recent surveys of the perioperative provision of analgesia to small animals suggest that the use of analgesic drugs in small animal veterinary practice could be improved. Difficulties in recognizing pain were cited as one of the major causes for withholding analgesic treatment, suggesting that the development of pain assessment for a practice setting should help improve animal pain management. The recognition of pain in animals is problematic. In people, the self-reporting of pain is the gold standard for the assessment of pain. However, in veterinary medicine, the recognition and subsequent assessment of animal pain has a number of limitations. The recognition of pain relies uniquely on the interpretation on the animal's behavior by an observer. We have to learn to interpret the signs of pain, which involves both behavioral and physiological responses. It is also worth remembering at this stage that:

- Analgesia should not with-held just because it may be difficult to recognize pain in an animal.
- Veterinary surgeons must be pro-active in looking for signs of pain in post-operative patients.
- If there is uncertainty about whether a post-operative patient is in pain then administering analgesia and assessing response to treatment is recommended.

Among the factors that influence physiological and behavioral responses to pain, species-specificity is important, but others such as gender, age, breed, individual temperament and environment should not be underestimated. Species-specificity is mainly linked to the species’ evolutionary survival mechanism and prey animals, such as small rodents and rabbits, tend to hide signs of injury or pain. For maximal reliability, the pain assessment tool should be species-specific. A degree of variability is still present within the same species and there may be some breed-specificity. The presence or absence of additional stressors such as fear, anxiety or debilitating disease should not be forgotten. Reducing patient anxiety is a very important aspect of pain management and it should not be underestimated. Environmental factors should not be forgotten either, as a painful animal in a hospital environment is not going to have the same behavioral response as a painful pet in its familiar domestic environment. Considering all of these complex aspects, the development of a reliable tool for pain assessment that can be used in practice is not an easy task.

ACUTE PAIN SCALES

Initial attempts to create an effective tool to assess and recognize pain were based on objective and measurable physiological variables such as heart rate, respiratory rate, pupil size, plasma cortisol and β-endorphin levels. However, these parameters have been found to be inconsistent and unreliable objective measures. Changes in wound tenderness have proven to correlate well with visual analogue scales in cats. Force plate gait analyses have also shown successful results evaluating degree of lameness in dogs and cats subject to a number of surgical procedures and analgesic treatments [1].

The pain scales that have been developed over the years can be summarized as:
Historically, simple unidimensional scales were developed and used for the measurement of the intensity of acute pain. These unidimensional scales include the SDS, NRS and VAS. Although they are still sometimes being used, they have presented an unacceptably large inter-observer variability, they are often not standardized and they sometimes provide inadequate information due to the limited number of questions/answers they provide. In order to solve these limitations, composite scales were created in order to assess different components or aspects of multidimensional experience such as pain. What is more, these composite scales offer an additional benefit, since the scores can be linked to an intervention level which guides the clinician as to whether or not an animal requires analgesic treatment. The CMPS-Feline scales and the UNESP-Botucatu multidimensional composite pain scale have an intervention level defined [2].

The most vigorously validated pain scoring system in cats is the Glasgow Composite Measure Pain Scale-Feline (CMPS-Feline). The CMPS-Feline was initially developed using psychometric principles and it was recently validated as a behavior-based tool for the assessment of acute pain in cats [3]. It takes the form of a structured questionnaire completed by an observer following a standard protocol and includes assessment of spontaneous and evoked behaviors, interactions with the animal and clinical observations. Construction and clinical testing of the tool supported its validity, however sensitivity was moderate. In order to improve the performance of the tool by increasing the sensitivity of the behavioral component of the already multidimensional scale, a simple three-point facial scale was developed with the intention of embedding it within the behavior-based cat tool. This is an approach that had been previously adopted in pediatric medicine. In fact, facial expression had initially been studied in non-verbal humans, such as pediatric patients and adults with cognitive impairment. Facial expression study in animals has led to the development of Grinace Scales, which are standardized facial coding systems developed by recording changes in facial expression after application of a noxious stimulus. It has been studied and validated in different animal species and finally published as mouse, rat and rabbit grimace scales (MGS, RGS and RbGS). The new resulting CMPS-Feline, with its embedded facial image component, has finally proved to be a valid scale for the measurement of acute pain in cats in general veterinary practice with a recommended intervention level of 5 and above (out of a total possible score of 20). Finally, this new version of the CMPS-Feline has displayed increased discriminatory ability over the previously described CMPS-Feline [4].

One of the most basic ways of assessing pain is to administer analgesia and then re-evaluate the patient. When incorporating a pain scoring system for postoperative pain, it should be repeated as a means to deciding whether the appropriate level of analgesia is provided, whether the dose given is appropriate or whether a different analgesic modality is required. The introduction of simple pain assessment scores within practices, results in more interaction with the patients, better nursing care and improved knowledge and provision of analgesia. From the veterinary surgeon’s point of view, it provides a written assessment of the animal, enabling better planning of analgesia for future cases as well as knowledge of how that individual animal has responded.

REFERENCES