ARTHRITIS IN CATS: DIAGNOSIS, MANAGEMENT AND TREATMENT

Author : Sarah Caney

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Sarah Caney describes her procedure in dealing with cats that present with osteoarthritis and believes the owner is key to identifying common cases

DEGENERATIVE joint disease is the general term to describe degenerative arthropathies affecting any joint. Osteoarthritis (Oa), the focus for this article, is the term used to describe degenerative joint disease affecting synovial joints and is characterised by degeneration of the articular cartilage, hypertrophy of the bone at the articular margins and changes in the synovial membranes.

OA needs to be differentiated from other causes of musculoskeletal and locomotor problems (Table 1). Causes of OA in cats include the following.

• Primary joint disease

This is uncommon, but examples include:

– infectious causes, such as bacterial polyarthritis, mycoplasmal polyarthritis, feline calicivirus– associated polyarthritis and endocarditis; and

– immune-mediated inflammatory diseases, such as proliferative, erosive, idiopathic polyarthritis and systemic lupus erythematosus.

• **Secondary joint disease**

Examples include:

– congenital and developmental problems, such as hip dysplasia;

– previous trauma, resulting in joint instability, such as fractures, ligament ruptures; and

– low-grade chronic wear and tear damage to the joint/s.

In the past it was often stated that cats did not suffer from OA and that their small frame meant any radiographic changes seen were not clinically significant. It is now known that clinical OA is common in older cats, although it differs from canine OA in that lameness is not a major feature.

Surveys have reported varying prevalence for OA; a recent study revealed that 61 per cent of cats over the age of six years had radiographic evidence of OA in at least one joint (Slingerland et al, 2011). Studies concentrating on older cats have yielded the highest prevalence rates – for example, up to 90 per cent of cats over 12 years of age (Hardie et al, 2002; Clarke et al, 2005; and Godfrey, 2005).

Collecting a good patient history

It is now apparent that owners are the key to recognising likely cases and so the veterinarian needs to be asking the correct questions to identify them. Lameness is not a dominant feature in many feline patients with OA; therefore, careful history taking is required to find the relevant clues pointing to this condition.

Common clinical signs of OA reported by owners include, for example, stiffness, reduced jumping and behavioural changes. The latter includes toileting accidents, with affected cats often missing the litter tray since it is painful to get into, or posturing to urinate and/or defaecate.

OA patients often become more withdrawn a n d m a y b e more aggressive towards other animals or people in the home. They are likely to spend more time in the same place – either sitting or asleep. Unfortunately, many owners feel it is normal for older cats to exercise less and be more inactive, and even when they recognise signs of OA, such as stiffness, they often interpret these as normal age-related changes that are not necessarily an indicator that their cat is in pain or that it needs veterinary treatment.

Table 2 lists questions that should be asked to identify gait abnormalities, previous injuries or behavioural and lifestyle changes that could be consistent with the possibility of a painful mobility problem. A thorough medical history is essential in identifying indicators of systemic illness (for example, renal disease, hyperthyroidism), which may affect treatment possibilities, be responsible

for some of the clinical signs and require specific management themselves.

Clinical examination

Cats affected by OA may show reduced grooming activity – manifested as a scurfy or matted coat – and overgrown claws as a result of less exercise and scratching activity. Their pain may make them more resentful of general handling.

Where possible, gait examination should be performed and the cat should be encouraged to jump on or off chairs to allow assessment of these activities. In contrast to dogs with OA, lameness is not common in cats, but a reduced jumping ability and reduced height of jump are.

Joint manipulation is harder to interpret in cats, which often show less obvious evidence of pain or discomfort, but may be generally more resentful of the examination process. Joint thickening may be evident and the elbows are most commonly affected by this.

Diagnosis

Radiography is required to confirm OA. This may present a stumbling block for owners of elderly cats, due to a reluctance to sedate or anaesthetise their cat. In these cases, clinical judgement should be used to decide whether radiography is essential.

Radiographs of painful joints can be taken under sedation (for example, following administration of intramuscular 5mg/kg to 8mg/kg ketamine and 0.25mg/ kg midazolam). If the gait abnormality is not localisable, then two views of the elbows, stifles and a ventrodorsal pelvic radiograph are indicated, since these joints are most frequently affected.

Radiographic findings in patients with OA include periarticular and intra-articular new bone, narrowing of joint spaces, sclerosis of the subchondral bone, bone remodelling, soft tissue thickening and swelling around the joint and joint effusion. Any of these radiographic changes should be interpreted as potentially significant. Changes can be subtle, even in patients with marked OA.

Synovial fluid collection and cytological and bacteriological evaluation are rarely indicated in cats with OA. Fasted blood and urinalysis is indicated to look for concurrent problems, such as renal disease, hyperthyroidism and diabetes mellitus.

Treatment of feline OA is aimed at improving quality of life through symptomatic and supportive measures.

Environmental and management strategies

Recommendations for these will vary, depending on the nature and extent of the problems reported by the owner.

Examples of strategies that should be considered include:

• provision of several lowsided (easy access) litter boxes in all areas that the cat uses;

• provision of food, and especially water, on all levels of the house;

• cats with OA affecting their necks may find it more comfortable to eat and drink from raised food and water bowls;

• using ramps, steps or “staging posts” to allow access to raised areas (for example, beds) that the cat may like to sleep on;

• soft, padded bedding and heated beds can be popular; and

• cats finding it difficult to groom can benefit from being brushed by their owner.

Analgesic therapy

Pain relief is an effective treatment for cats with OA. The only long-term analgesic currently licensed for cats is meloxicam. The manufacturers recommend a starting dose of 0.1mg/kg on day one and 0.05mg/kg/day thereafter. The lowest effective dose should be used. All NSAIDs carry a potential risk for gastrointestinal side effects and renal toxicity, therefore owners should be advised of these and pre-treatment assessment of renal parameters performed. Azotaemia, in combination with a urine-specific gravity of less than 1.035, is consistent with renal insufficiency and warrants selecting alternative analgesic therapy or reducing NSAID dosage and monitoring closely.

Alternative non-licensed analgesics, for which only anecdotal evidence of efficacy exists, include buprenorphine, fentanyl patches, gabapentin and tramadol. S-adenosylmethionine (SAMe) has also been advocated, based on some evidence of efficacy in human knee OA.

Glucocorticoids are not recommended for the management of feline OA since they may result in cartilage damage by reducing the synthesis of collagen and other matrix substances.

Chondroprotective joint supplements

The rationale for the use of these agents is that they slow cartilage degradation and provide precursors required for cartilage repair. Chondroitin is a glycosaminoglycan found in articular cartilage, while glucosamine is a precursor for glycosaminoglycan production and is also used in the production of hyaluronic acid by synovial cells.

Many different oral supplements are available as nutraceuticals and are popular with clinicians, despite the lack of published, objective data to support their efficacy. Based on knowledge gathered from other species, a supplement containing both chondroitin and glucosamine is indicated, since these agents are thought to be synergistic in combination.

Dietary therapy

Feline diets indicated for the treatment of cats with mobility disorders are now available. These diets are typically modified to contain fatty acids, such as alpha linolenic acid, eicosapentaenoic acid and docosahexaenoic acid, which have been shown to have anti-inflammatory and anti-cartilage degradation effects in vitro. The diets also contain antioxidants, agents that enhance cartilage synthesis, natural glucosamine and chondroitin sulphate and L-carnitine. A study has reported a significant increase in the activity levels of cats receiving a “degenerative joint disease diet” (Lascelles et al, 2010).

Physiotherapy and acupuncture

Physiotherapy techniques (for example, massage or passive joint manipulation) may be an option in cats that are reluctant to exercise and where they allow their owners to do this. Acupuncture techniques can help by decreasing the pain associated with muscle spasms.

Weight management

Obesity management should be introduced where required.

Surgical therapy

Surgical treatment may be appropriate in some instances, for example, in cases of:

• **cranial cruciate rupture** – especially in large cats;

• **joint instability** – arthrodesis may be indicated; and

• **severe hip dysplasia** – excision arthroplasty may be indicated.

Surgical intervention is generally indicated as a salvage procedure when medical treatment has failed to provide sufficient pain relief or adequate functionality.

Patient monitoring

Patients receiving NSAIDs should have their serum biochemistry and packed cell volume

rechecked one week after starting treatment and again after six weeks. In addition, therapeutic efficacy and evidence of clinical and subclinical adverse effects should be established from the history and physical examination.

Other patients should be reassessed two to four weeks after any management or therapeutic changes have been made. The prognosis with treatment is highly variable, depending on the severity of disease and any associated concurrent disease.

Conclusions

Undoubtedly, OA is a common feline complaint, but it is still under-recognised and undertreated. Now that knowledge on presenting signs is available, practitioners should be in a good position to diagnose and manage affected cats.

This is particularly important now that better cat care is helping to increase the numbers of older cats and, therefore, the population of cats with OA in all practices.

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ABSTRACT

For many years, osteoarthritis (OA) has been an overlooked area of feline medicine. Over the past decade there have been great advances in feline pain recognition and treatment options, provoking an increased interest in this subject. The elbows, stifles and hips are most frequently affected by OA and this is often a bilateral condition. The true prevalence is not known; however, older cats are more at risk of having this condition. Diagnosis of feline OA is challenging – for example, affected cats are not commonly lame and often the main changes are in their behaviour or lifestyle. Treatment can benefit affected cats by improving their quality of life. Available therapies include simple environmental modifications, such as providing steps to favourite sleeping places, acupuncture, dietary treatment, joint supplements and analgesic medications.

Key words: osteoarthritis, arthritis, cat, NSAIDs.