

LYMPHOCYTIC/PLASMACYTIC GINGIVOSTOMATITIS

One of the most frustrating and enigmatic problems seen in cats (mostly, though I have seen it in dogs a number of times) is chronic lymphocytic/plasmacytic stomatitis (LPS). The typical history is that of a cat with very inflamed gums, often with only minor calculus accumulation. The cat may have had its teeth cleaned several times and may have had extractions. The mouth often looks better after a cleaning and a course of antibiotics, but the improvement does not last long. If the inflamed gingiva has been biopsied, the pathologist almost always reports lymphocytic-plasmacytic gingivitis or some variation thereof.

There have been many theories proposed and published as to the etiology of LPS. Many of these theories have been elevated to the status of fact through repetition but without any scientific evidence to support them. A literature review on the subject was presented by F. J. Verstaete at the Annual Dental Forum in 2000. Dr. Verstraete was looking to separate the speculation from the scientifically verifiable. He asked the question, "What is there in the peer-reviewed journals versus what has been published in proceedings, trade publications and by word-of-mouth?" In so doing, he found that the only statement he could make regarding the etiology of LPS is that it is an atypical immune response of unknown etiology. Every other statement ever published regarding

All We Can Say With Confidence is that it is
An Atypical Immune Response of Unknown Etiology

the cause of LPS he discarded as having no scientific basis.

There is no one factor that is common to all cats suffering from chronic gingivitis-stomatitis. Some will have underlying disease of some sort, and a thorough work-up is indicated to assess the general health status of the animal. Any disease that might interfere with the cat's local immunity in the gingiva may play a part.

Cats should be screened for FeLV, FIV and FIP though they are usually negative for all three. Direct IFA for calicivirus in biopsy samples may reveal a chronic local viral infection, though the significance of this is not clear. Disorders of the circulation such as diabetes mellitus can play a role as can immune disorders such as SLE and food allergies. In fact, almost any severe systemic disease will contribute to gingivitis in a susceptible individual. These other factors should be identified in the interest of being thorough. It does no good to get the mouth in order and then lose the cat in a ketoacidotic crisis. One fairly consistent finding in affected animals is a hypergammaglobulinemia, as would be expected in any patient with chronic immune-system stimulation.

Another fairly recent suggestion (by Hardy, WD at the Annual Veterinary Dental Forum, 2002) has been Bartonella infection as a cause. The proponent of this theory has a small credibility issue in that he owns the only laboratory that offers the serological test for Bartonella. His claim was that in the short term, the cats responded favourably to a dental cleaning with appropriate extractions and treatment with azythromycin. However, we know that, in the short term, almost all cats respond well to a cleaning and extractions alone, so what added benefit was attributable to azythromycin is unclear. Longer-term studies are required to see if there is anything to this theory.

I have had communication from a number of veterinary dentists who have started to screen for Bartonella in their LPS cats, and the results have been inconclusive. Some cats test positive, some test negative, much like the general cat population. There has been no cause-and-effect relationship shown as yet.

If your work-up has revealed systemic disease, managing it may make managing the gingivitis easier. One factor which is common and cannot be altered is genetics. There seems to be a much higher incidence of gingivitis-stomatitis in highly bred cats such as Siamese, Abyssinian and Himalayans.

To simplify things (always a risky move), these cats act as if they have a complete intolerance to dental plaque. Even a thin, invisible film elicits a dramatic over-reaction of the cat's local immune response. Therefore, one approach to treatment of feline gingivitis-stomatitis depends on getting the mouth plaque free and keeping it that way.

The first step involves a thorough assessment and management of systemic disease. Next comes a thorough oral hygiene procedure. This procedure must include scrupulous cleaning of the crowns and any root surfaces exposed by loss of gingival attachment. Any anatomical features which would be plaque retentive must be eliminated. This would include resorptive lesions, exposed furcations, over crowded teeth and retained roots from previous extractions. Once scaled and planed, the teeth should be polished with a fine paste, rinsed, dried and treated with a fluoride gel. A final coating with a hydrophilic wax polymer (Pro-V-Seal™) may slow down the recolonization of the crowns with plaque bacteria.

Now that the mouth is clean, it must be kept that way. Discharge the patient with a seven-day course of antibiotic and an oral antiseptic such as zinc ascorbate (Maxi/Guard™) to be used daily. If there have been extractions, have the owners feed soft food for a week. Schedule a recheck for seven to 14 days post-operatively at which time you can assess healing. Since the absorbable suture material used to close any extraction sites will retain plaque, you can expect some reaction to persist until these sutures have disappeared.

Once the mouth is comfortable, the owners should start to work on home care. Home care should include daily brushing with an antibacterial dentifrice such as zinc ascorbate gel or an enzymatic paste.

An attempt should be made to get the cat onto a hard, dry diet. Eating kibble does not really clean the teeth, but eating canned and semi-moist will get them dirty much faster. After a meal of wet or semi-moist food, there is a lot of food left in the buccal pouch, in the interdental spaces and at the gingival margin. This retained food feeds oral bacteria and supports the rapid development of plaque.

Hill's Prescription™ Diet feline t/d™ has been shown to aid in plaque control and should be considered if there are no dietary requirements which take precedence.

Have the cat back monthly for rechecks to keep ahead of the problem. If the owners are successful with the home-care program, a prophy every six to twelve months may keep the problem under control.

The very big problem with the above plan is that these cats often have considerable oral pain and they simply will not allow the owners to brush the teeth to remove plaque and so the problem

comes back within months or even weeks of treatment. Keeping the animals comfortable with antibiotics and steroids until the home care program is established may help.

If despite your best efforts (and the client's) at controlling the disease the gingivitis recurs, the next step is extraction of all premolars, molars and retained roots thereof plus a scrupulous cleaning of the canines and incisors with extractions of them as indicated (based on clinical and radiographic examination). With the posterior teeth removed and only the anteriors to worry about, homecare becomes considerably easier. For some cats, the reduced plaque load allows the condition to go into remission.

If the problem still recurs, remove the remaining teeth and be certain there are no retained roots from previous extractions or resorptive lesions.

Once all the teeth and retained roots have been completely removed, there is a high cure rate with no need for home-care or further dental work. If there is still inflammation in the mouth then you may have missed a tooth root somewhere or there may be a sequestrum of necrotic bone to be removed. There may even be an invagination of oral soft tissues into an extraction site acting as a cul-de-sac hospitable to bacteria.

Depending on the animal and the client, you may opt for extraction sooner rather than later.

Unfortunately, some cats fail to respond to even whole-mouth extraction. Cats that present with inflammation around the teeth only tend to respond well to extraction. Cats that have the inflammation extending into the oro-pharynx present a greater challenge.

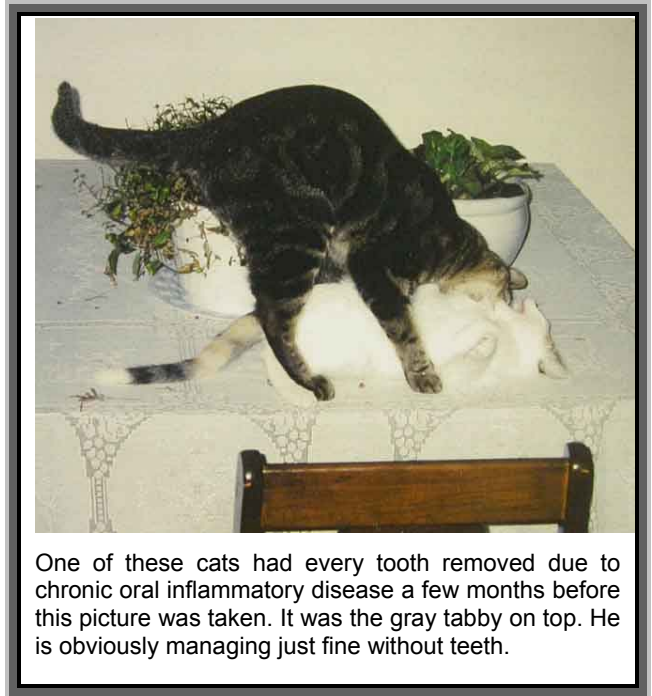
Another prognostic indicator is response to conservative treatment. If a cat responds well, though transiently, to a routine hygiene procedure and/or antibiotics, this suggests that they will respond well in the long-term to extraction. If there was no response to the initial treatments, then the prognosis with extraction is not as certain.

Many medical regimens have been tried to treat or control LPS and most have shown some promise in some cats for some time. These would include antibiotics, corticosteroids, levamisole, bovine lactoferrin, co-enzyme Q10, cyclosporin and interferon. None of these protocols have given consistent or lasting results and none of them can reverse degenerative changes such as resorptive lesions and periodontal disease. If an owner wishes to preserve teeth, the first step must be a thorough cleaning with extraction of significantly compromised teeth. Once this is done, medical management has a much better chance of helping as the challenge has been greatly reduced. These medical regimens may also have a place for cats that continue to have trouble following whole-mouth extraction.

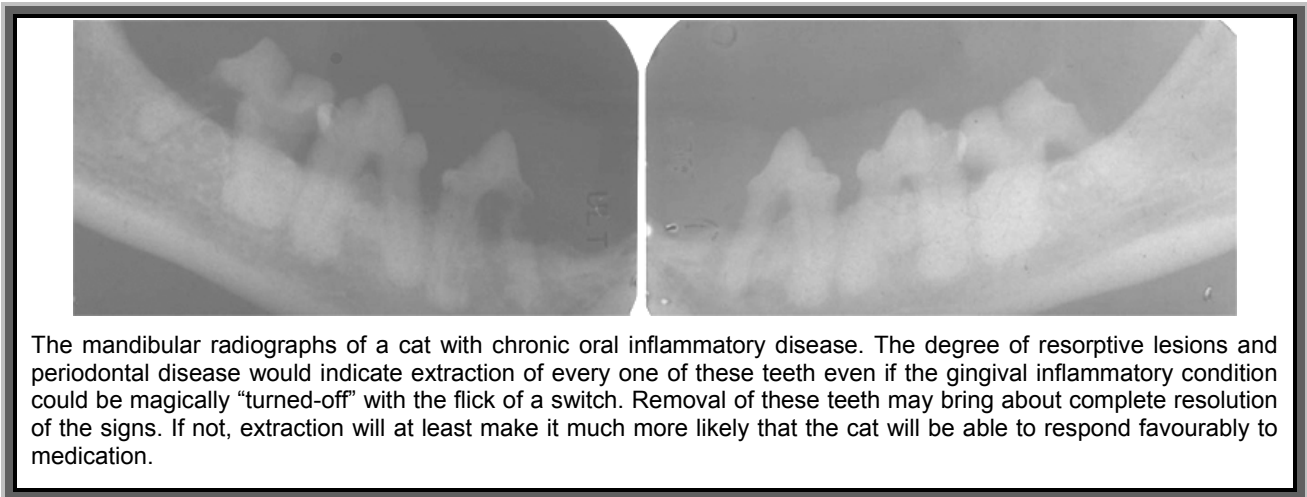
In my experience, by the time a cat is referred to me for treatment of LPS, the conservative options have been tried and have failed. Under close examination, I frequently find that many of the significant teeth have resorptive lesions and/or extensive periodontal disease (gingival recession, pockets, bone loss) and that these teeth have to come out. Following removal of the teeth that have to be extracted, those that remain are often of little functional value, and since they are prone to be ongoing sources of trouble, I feel it makes sense to remove them as well. Therefore, in my practice, the typical protocol for the treatment of LPS is either extraction of all posterior teeth or extraction of all teeth. Anecdotally it seems that the sooner this is done, the better the response.

The longer the condition goes on, the deeper into the tissues the problem penetrates and the further down the pharynx it extends and then it can become self-perpetuating even after extraction. Soft-tissue surgery to remove redundant, hyperplastic tissue may be needed to remove the folds and crypts of tissue that can continue to trap bacteria. Some propose ablating this tissue with electrosurgery or laser and suggest that the ablation may need to be repeated monthly for three treatments.

When I suggest whole-mouth or posterior tooth extraction to owners, many are concerned about how their animal will cope without teeth. My experience is that they cope extremely well. Many are eating hard, dry kibble again within weeks and I have known of some edentulous cats that continued to hunt successfully.



One of these cats had every tooth removed due to chronic oral inflammatory disease a few months before this picture was taken. It was the gray tabby on top. He is obviously managing just fine without teeth.



The mandibular radiographs of a cat with chronic oral inflammatory disease. The degree of resorptive lesions and periodontal disease would indicate extraction of every one of these teeth even if the gingival inflammatory condition could be magically "turned-off" with the flick of a switch. Removal of these teeth may bring about complete resolution of the signs. If not, extraction will at least make it much more likely that the cat will be able to respond favourably to medication.