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10th Annual Feline Fanciers Symposium
Dental and Gum Problems in Cats

Dr. Colin Harvey, professor of surgery, discussed dental and gum problems in cats. He explained that cats have 30 teeth, compared to dogs which have 42. The skull and mandible of the cat are generally shorter and the head shape is more uniform than in dogs.

The cat's upper jaw has eight teeth on each side, and the lower jaw has seven on each side. The incisor teeth each have a single root; the canine teeth each have one large root, the visible crown being only one third of the tooth. The large carnassial tooth on the upper jaw has three roots and the other cheek teeth each have two roots. In a normal healthy mouth the teeth are clean and the gums are light cream or pink in color.

Often though, the normal healthy mouth is seen only in younger cats. As the animal gets older, gum and dental disease develop. "Gum disease is the most frequent disease seen in veterinary dental practice," said Dr. Harvey. "Periodontal disease is the most common infectious disease in the world and it affects dogs, people, and all other species." He pointed out that gum disease is usually regarded as a benign disease not causing a great deal of pain, except in the cat where its effects can become a very serious medical problem.

Periodontal disease is caused by bacteria that flour­ish in the mouth and form plaque, a substance which coats the teeth. If it is not removed through dietary abrasion or brushing, calculus, a hard mineral substance, will form. It adheres to the teeth, particularly at the gum line. This irritates the tissue, causing inflammation. Bacteria exacerbate the situation. In the beginning of the disease process, the bacteria flourish­ing are aerobic, but after a short while anaerobic bac­teria take over. These are more destructive as they produce enzymes which attack the gum and bone tissues. If infection goes unchecked, the gingivae can become so inflamed that they pull away from the teeth, and bacteria can penetrate into the pockets and reach the bone and affect it. The disease also attacks the ligaments that hold the teeth in place and that act as shock absorbers when one bites down. In advanced disease, teeth will loosen and fall out.

Periodontal disease in the cat has an added dimension. Not only are gums and bone tissues affected but also the teeth. The actual structure of the teeth is attacked by the cat's own cells that line the teeth. Active lesions ('neck lesions') develop and the cementum disappears, leaving the sensitive dentin exposed. It is a very painful condition, as the tooth nerves are no longer protected. When a cat has neck lesions it may refuse to eat or drink because of the pain. Left untreated, the condition can become life threatening because of dehydration.

Another abnormal feature of periodontal disease in cats is extensive soft-tissue proliferation and ulceration, which develops in some animals. It usually affects the cheek lining that separates the jaws, and the lining of the throat. This condition has been referred to as "plasmacytic-lymphocytic gingivitis-stomatitis."

Dr. Harvey explained that dental and gum disease in cats can be successfully treated if detected early. "The animal is anesthetized, and the teeth are cleaned thoroughly to remove plaque and calculus. Then the owner has to follow up with home care to prevent the reformation of plaque and calculus. If the disease is advanced, we need to treat the animal with antibiotics and anti-inflammatory drugs to reduce the inflamma­tion. Only then can the teeth be thoroughly cleaned while the animal is anesthetized. In severe cases, teeth may have to be pulled." He explained that the teeth most often affected are those in the cheeks. "We can pull them and leave the canine and incisor teeth. The cat can eat and will be fine." The rate of cure for cats with severe, non-responsive gum disease is about 70 percent, following extraction of all teeth in affected areas of the mouth.

Dr. Harvey then explained proper oral hygiene to prevent gum and dental disease in cats. He recom­mended feeding a dry food and brushing a cat's teeth several times a week. One needs a soft child's toothbrush, a dentifrice specifically for cats, and patience to brush a cat's teeth. Substances containing sodium benzoate should not be used as that is toxic to cats. To acquaint the animal with having its teeth brushed, the owner should gently hold the cat's mouth closed and then just lightly brush the outside of the front teeth with a brush dipped in water. After about a week the brushing should be extended to the back teeth, still only on the outside. After a few weeks the cat's jaw should be opened and the inside of the teeth brushed. He cautioned that some cats will not allow brushing on the inside of the teeth, and he recom­mended to continue brushing the outside.

Prior to embarking on a brushing regimen, the owner should make sure that the teeth and gums are clean. If they are not, then the cat should be taken to the veterinarian for teeth cleaning. Then brushing should be commenced.

Dr. Harvey then briefly discussed orthodontic abnormalities which can cause malocclusion. These are seen commonly among brachycephalic breeds and occasionally in some modern strains of Siamese cats which have extremely long jaws.

Trauma is a common cause of oral disease. Cats often fracture the jaw when falling from heights, or they may dislocate the jaw. Fractured teeth can be retained if endodontic treatment is performed. Chew­ing on electrical cords also results in injury to the mouth.

Dr. Harvey currently is engaged in a research project studying the types of virus found in oral cavities of cats. His work is being supported by a grant from the Winn Foundation, and it is carried out at Penn and at the University of Liverpool, England.
Behavior Problems in Cats

Dr. Victoria L. Voith, adjunct assistant professor of medicine, discussed feline behavior. She pointed out that cats can be very social and have individual ways of expressing themselves. Sometimes their communications may be interpreted as aggression by owners. She stated that cats have a flexible social system, that they can live either alone or in small groups, and that they communicate by hissing, growling, swatting, and scratching. "These signals are not evil; they are means to communicate," she said. "But owners sometimes misinterpret them. Cats hiss at each other and sometimes at owners. We must remember that they often use grosser signals than dogs."

About 25 percent of the cat behavior calls received by the clinic pertain to aggression. "In many cases it is just play aggression and this can be treated easily. However, we have seen cases of severe aggression involving biting and scratching and the sudden pursuit of an owner.

Dr. Voith then cited a case history, seen by her and Dr. Chapman. The cat, a six-year-old domestic short-haired cat, lived indoors and one day suddenly attacked the husband and displayed aggressive behavior toward him for a period of time. The cat was taken to the veterinarian for an examination and received a clean bill of health. Then it was referred to the behavior clinic.

During consultation at the behavior clinic, a thorough history was taken. It was found that on the day the cat first exhibited this behavior the family had had visitors with children. The cat had run outside into the garden and hidden under a bush. The husband had tried to catch it, but the cat had hissed at him and had pursued him, walking on its hindlegs, batting its paws. The man had left and returned with a blanket, and used it to capture the cat. After that, whenever the cat saw the husband, it threatened him.

Dr. Voith diagnosed the behavior as fear-elicited aggression. "The cat was afraid outside," she said. "It was apprehensive, very aroused, and primed to be defensive towards anything. When the husband caught it and the cat directed its aggression toward him, the cat was further frightened by its capture and remained defensive toward the husband." The cat was treated with a combination of techniques. The husband was advised not to directly interact with the animal, but just put down its food but not reach for the cat. Eventually he was to place the food closer and closer to himself until the cat was next to him. Only then was he to attempt to pet it. It took two months for the cat to lose its fear and cease the aggression episodes.

Other cases of aggression involved a cat which had attacked a dog and then had turned on the owner. In another case the cat had become aroused by a peculiar odor and became aggressive when the owner reached for the cat to pet it.

"Cats take offense when scared or aroused," said Dr. Voith. "They remain aroused for a long time and may direct their aggression toward someone who comes close while they are in this state." She recommended to not interact with a cat that is aroused and to wait until the cat is calm and relaxed, exhibiting other behaviors like grooming or eating. "If one approaches a cat that is in an aroused state, the result can be redirected aggression. The person may then react in a way which causes the cat to become more afraid. It then takes a long time to get the animal back to its normal self." She did say that cats exhibiting sudden aggressive behavior should be seen by a veterinarian to rule out disease.

Dr. Voith briefly touched on the notion that declawed cats are more aggressive and cited studies which refute this. "There is no evidence that declawing causes a cat to be more aggressive."

By far the most common behavior problem people consult about is a cat's refusal to use the litterbox. "This is in essence a life-threatening situation for the cat as people will not put up with it," she said. "But in most cases the behavior can be corrected." She explained that cats are programmed to use loose substrate and that, prior to eliminating, scratching of the substrate is necessary. "At about three weeks of age kittens will climb into the litterbox and scratch," she said. "When they are about four weeks old, they will begin to use the litterbox to eliminate." Cats have individual preferences for the material in the litterbox, and owners may have to experiment with different products, sand or sawdust before a litter acceptable to the animal is found. "Sometimes a litterbox is not clean enough and the cat will look for another place," she said. "A litterbox should be cleaned often. When disinfectant is used, the box should be air-dried to eliminate any lingering odor of the product. Also, many cats do not like hooded litterboxes as odor can build up."

She pointed out that if cats do not scratch in a litterbox they may eventually stop using it. If they dislike the litter they will find another substrate. In order to discourage the cat from using the carpet or another surface in the house, the owner should clean the area and then change the texture of the surface. It can be covered with plastic, for example.

The owner should change the litter, use a different product, and take the cat over to the box several times a day. In some cases several boxes with different litters may have to be set up. Also, owners can try to prevent a cat from using an area for elimination by putting food or water there or the cat's bed. Under no circumstances should one punish the cat and then put it in the litterbox as it will then associate the box with punishment.

In the afternoon Mr. Richard Gebhardt, past president of the Cat Fanciers Association and a noted cat show judge, discussed judging procedure. He also explained the breed standards for ten breeds of cats which had been brought to the symposium. His presentation was followed by "A Spectator's Guide to Cat Shows," given by Mr. Gene Phillips, director of the Cat Fanciers Data Center. The final speaker of the day was Dr. Jane R. Bicks, who gave an interesting talk on "Practical Feline Nutrition."