

## Tooth Extraction: Lingering Roots, Lingering Pathology

Medical records of patients referred to a dental specialty center for reasons other than incomplete dental extraction were reviewed for specific reference to complete extractions of the maxillary fourth premolars (108 and 208) and the mandibular first molars (309 and 409). Seventy-four dogs and 42 cats were included; extraction sites were radiographed to identify root fragments and associated pathology. An additional 25 dogs and 25 cats that had extractions with preoperative and postoperative radiography were included as a control group.

Sixty-one dogs (82.4%) had retained tooth roots, with pathology identified in 39 of these cases (54.9%). Retained tooth roots were found in 39 cats (92.8%), with associated pathology in 27 (69.2%). Periapical pathology included severe osseous ankylosis, sclerosis, and alveolar bone loss. No patients with radiographically

documented complete extractions showed evidence of pathology. Radiographically evident periapical pathology indicates infection of the root fragment leading to either granuloma or abscess formation, making complete root extraction necessary. However, crown amputation and intentional root retention may be preferable for cases of feline type II resorption.

This study occurred in a state that allows licensed veterinary technicians to perform extractions, and the authors speculated that the majority of the extractions studied may have been thus performed. The study's results highlighted the importance of dental training and postoperative dental radiography.

### ■ ■ Commentary

Dental radiography is a popular subject and, in addition to the ability to accurately evaluate radiographs, is recognized as a

valuable diagnostic tool. This study demonstrated a tremendous discrepancy between *believing* a tooth has been completely extracted and *actually* completely extracting a tooth. The underwhelming emphasis on veterinary dental education and lax practice laws that permit individuals without advanced training to perform extractions contribute to a high prevalence of root fragments following extraction, and a high prevalence of those fragments demonstrating evidence of pathology. Accurate identification and diagnosis are important steps toward ensuring every patient has a functional, comfortable bite.—*Christopher Snyder, DVM, DAVDC*

### ■ ■ Source

Evaluation of extraction sites for evidence of retained tooth roots and periapical pathology. Moore JI, Niemiec B. *JAAHA* 50:77-82, 2014.



## Reconsidering *Ancylostoma ceylanicum*

Recent epidemiologic surveys have determined that *Ancylostoma ceylanicum* is the second most common hookworm species infecting humans in Asia. *A. ceylanicum* was originally found in humans in such low numbers as not to cause clinical concern. However, where *A. ceylanicum* is endemic in dogs and cats, its prevalence in humans is rising.

Experimental infection of human volunteers with *A. ceylanicum* produced skin lesions in those infected cutaneously and abdominal symptoms (eg, GI discomfort, flatulence, diarrhea) in all who developed a patent infection. Natural infection is also under investigation; in some human patients, a single visualized and positively identified *A. ceylanicum* worm was implicated as the cause of symptoms (eg, abdominal pain, nausea, poor appetite).

As with other zoonoses and public health concerns, it is important to take a One Health approach to controlling *A. ceylanicum* by combining chemotherapeutic interventions with improved sanitation. This is particularly important in communities where the parasite is endemic and humans live in close contact with dog and cat reservoirs (eg, Southeast Asia, Northern Australia, South Africa).

### ■ ■ Commentary

Although *A. ceylanicum* is not endemic in North America, veterinarians should know important aspects of this parasite. Because of recent molecular diagnostic advances, we now know *A. ceylanicum* is the second most common hookworm infecting humans in Asia. Human infections have been reported in almost all regions where *A. ceylanicum* is known to

infect dogs and cats. While anthelmintic therapy in humans has been endorsed, and likely controls morbidity, it most likely does not impact reinfection rates. Parasite populations vary from region to region; however, using proper treatment and preventive strategies for community dogs and cats has a positive impact on *Ancylostoma* spp infections in humans.—*Chris Adolph, DVM, MS*

### ■ ■ Source

*Ancylostoma ceylanicum*, a re-emerging but neglected parasitic zoonosis. Traub RJ. *INT J PARASITOL* 43:1009-1015, 2013.

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