**Staphylococcus Susceptibility to Fluoroquinolones: Generational Differences**

The 2 most commonly isolated staphylococci associated with canine pyoderma are *S. intermedius* and *S. schleiferi*. Fluoroquinolones (FQs) are commonly used to treat canine bacteria. In this study, bacterial isolates were collected from 367 dogs (301 healthy, 51 with pyoderma, 15 with otitis), and none of the dogs had been treated with FQs. Antimicrobial sensitivity testing (disc diffusion) was performed on isolates of *S. intermedius* and *S. schleiferi* with the following FQs: ciprofloxacin, danofloxacin, difloxacin, enoxacin, enrofloxacin, flumequine, gatifloxacin, levofloxacin, lomefloxacin, marbofloxacin, moxifloxacin, norfloxacin, ofloxacin, orbifloxacin, pefloxacin, and trovafloxacin. Among the 367 dogs, 230 isolates of staphylococci were identified (136 were *S. intermedius* and 10 were *S. schleiferi*). A total of 134/136 *S. intermedius* isolates and 4/10 *S. schleiferi* were susceptible to all FQs. The resistance pattern for the remaining 8 isolates was similar; the isolates were resistant only to gatifloxacin, moxifloxacin, and trovafloxacin. All of the resistant strains of *S. intermedius* had an alteration in the gene sequence in both GyrA-84 and GrlA-80, while *S. schleiferi* had changes only in GyrA-80.

**COMMENTARY:** This is the first study to look at the susceptibility of *S. intermedius* isolates from dogs to second, third, and fourth generation FQs and to describe the mutations associated with FQ resistance. The authors found a dichotomous resistance pattern: *S. intermedius* organisms became resistant to second- and third-generation FQs but maintained susceptibility to fourth-generation FQs. It is important to note that the isolates in this study were from dogs not exposed to FQs; such dogs had a low prevalence of resistance (1.5%). However, resistance to *S. schleiferi* was much higher — this organism is often methicillin-resistant. Infections with *S. schleiferi* are probably underrecognized and underreported because staphylococcal speciation is not often ordered when cultures are performed or the organism is misidentified. Clinicians encountering patients with bacterial pyoderma not responding to therapy should culture the pyoderma and request staphylococcal speciation in addition to susceptibility testing. Laboratories able and willing to do strain isolation should be used. —Karen A. Moriello, DVM, Diplomate ACVD


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**Larval Migrants in a Cockatoo**

A Moluccan cockatoo (*Cacatua moluccensis*) died of a *Baylisascaris procyonis* infection shortly after onset of an atypical clinical presentation caused by neural migration of the roundworm. Initial clinical signs included right-sided head tilt, ataxia, and falling backward. Initial diagnostics included survey radiographs that were unremarkable; CBC indicating anemia (PCV 34%); and high levels of total protein, creatine kinase (CK), aspartate aminotransferase (AST), and beta-globulins. Despite a 7-day course of enrofloxacin (possible bacterial infection) and D-penicillamine (possible exposure to lead-based paint chips), the bird became progressively weaker and recumbent. It was presented to the Kansas State University Veterinary Medical Teaching Hospital in lateral recumbency, was weak, appeared stuporous, and had difficulty grasping objects with its feet. It was about 8% dehydrated. Repeated blood analysis indicated lymphopenia, monocytosis, low PCV (continued anemia), mild hypoglycemia, hyperproteinemia, hyperglobulinemia, and increased levels of AST and CK. Serologic testing for West Nile virus was negative, and the lead and zinc levels were within normal ranges. The owner stated that the bird had escaped from its cage but remained confined to the room; however, the room contained an empty cage that had housed young raccoons several months earlier and had not been thoroughly cleaned. This history combined with the diagnostics and physical examination yielded the diagnosis of encephalitis secondary to neural larval migration of *B. procyonis*. The bird was treated with fluid therapy, thiamine, trimethoprim, and sulfadiazine but continued to decline and died 7 days later. Necropsy revealed a single nematode larva consistent with *Baylisascaris* species in a section of the midbrain.

**COMMENTARY:** *Baylisascaris procyonis* is a cause of larval migration in a wide range of both wild and domestic vertebrate animals and is usually associated with clinical CNS disease. It is more prevalent in animals that have close contact with soil or other items contaminated by raccoon feces. In this case, transmission of the infection occurred in a pet cockatoo whose owner was involved in wildlife rehabilitation and who had housed raccoons in a cage to which the bird was exposed. This case describes an unfortunate contact with *B. procyonis* that ultimately led to the death of the animal. In birds, this infection does not become apparent until neurologic signs are present, indicating that the larvae are already within the CNS, and treatment is unlikely to be successful. —Perri Stark, VMD, MBA