Careful with Those Catheters!

One of the most common nosocomial infections in both human and veterinary medicine is caused by use of an IV catheter. Types of catheter-related infection include catheter colonization, infections at the skin exit site, and catheter-associated bloodstream infections. In this study, dogs and cats admitted to an intensive care unit were surveyed for catheter infections during 2 time periods (November 2002 through November 2003 and July 2004 through November 2004). Strict protocols for catheter placement were followed. Briefly, the hair coat was clipped and the skin scrubbed 3 times with 2% chlorhexidine surgical scrub and rinsed with 70% isopropyl alcohol. The person placing the catheter wore gloves or had performed a 2-minute antibacterial scrub. Triple antibiotic ointment was applied to the site, which was then covered with a gauze sponge. The needle guard was secured to the skin, and a bandage was applied to the catheter. Catheters were removed when they were no longer needed or if pain and swelling occurred at the site. When catheters were removed, the skin was surgically scrubbed and the tip was not allowed to touch it. The distal tip of the catheter was placed in sterile saline, and the fluid was cultured. In addition, the tip of the catheter was rolled onto agar plates. Blood agar, MacConkey agar (for aerobic bacteria), and anaerobic cultures were used. A total of 101 central and 50 peripheral catheters from 113 dogs and 38 cats were cultured. Thirty-seven samples were positive (24.5%); 81% of the positive cultures were from dogs and 19% were from cats. The type of catheter, blood sampling through the catheter, type of IV infusion, duration of catheter placement, catheter location, and complications with the catheter or final outcome of the animal were not associated with an increased risk for positive bacterial culture. Enterobacter species were the most common isolate (17 of 37 samples). Phlebitis was noted in patients with negative cultures, and culture-positive animals frequently had no signs of phlebitis at the site.

COMMENTARY: The high rate of recovery of Enterobacter species from IV catheter tips in this study probably indicates nosocomial infection. This opportunistic organism grows rapidly in culture and is more easily isolated than many other bacteria. Contamination of catheter flush solution or IV infusates could not be ruled out in this study. Enterobacter species have been associated with contaminated medical devices in human medicine. —M.C. DeBey, DVM, PhD, Diplomate ACVD


Perianal Fistula: How Much Cyclosporine?

Canine perianal fistula disorder is a chronic, progressive disease characterized by ulceration of the perianal tissue. Common clinical signs include tenesmus, dyschezia, constipation, and mucopurulent discharge from the perineum. Evidence is accumulating that the disorder is immune mediated, so cyclosporine is increasingly being used as the treatment of first choice. In this study, 20 dogs with perianal fistula were randomly assigned to 1 of 2 modified-cyclosporine treatment groups (2 mg/kg or 5 mg/kg, both given once daily for 8 weeks). Concurrent ketoconazole was not used in this study. Dogs were evaluated every 2 weeks, and the lesions were photographed. Response to treatment was evaluated by measurement of lesion surface area, a visual analog scale, and the presence and severity of clinical signs. Both groups of dogs benefited from therapy after 8 weeks of treatment; however, dogs receiving 5 mg/kg improved faster. Clinical signs and lesions resolved in both groups but resolution levels were higher in the dogs receiving 5 mg/kg.

COMMENTARY: Traditionally, perianal fistula has been considered a “surgical” disease. However, increasing evidence suggests that this condition may be best managed as a chronic skin disease, with surgery as an adjunct rather than primary treatment. Care must be taken when comparing response to treatment in studies of perianal fistula because the earlier studies used nonmodified cyclosporine. A common treatment approach is to use concurrent ketoconazole to increase serum concentrations of cyclosporine, thereby allowing a lower dose of the latter to be used. In our hospital, ketoconazole (8 mg/kg) and cyclosporine (5 mg/kg) once daily are used as an initial treatment protocol for perianal fistula. Initial response may be seen within a few weeks, but maximal response may require up to 16 weeks of therapy. Tacrolimus ointment can also be used concurrently in these dogs. —Karen A. Moriello, DVM, Diplomate ACVD


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