Endoscopy in small animals has been a valuable resource for many years and is now a staple in many general and most specialty practices. In the pursuit of providing minimally invasive procedures in veterinary medicine, a vast array of flexible and rigid endoscopic equipment has become available for smaller veterinary patients. Similarly, many interventional techniques have also been developed, including percutaneous endoscopic gastrostomy (PEG) tube placement, balloon catheter dilation, and foreign body extraction.

Foreign body extraction is one of the most common endoscopic interventional procedures and esophageal and gastric foreign bodies are the most frequently diagnosed in practice. Unfortunately, the clinical signs secondary to foreign body ingestion can be quite varied due to the material, size, location and degree of obstruction the foreign body causes. In most instances, acute vomiting is the major complaint. Often, these pets are treated conservatively for “gastritis” or “dietary indiscretion” and the foreign body is found several days later as the clinical signs either fail to subside or worsen. One major consideration in patients that develop acute vomiting is to question the owner to ensure the patient has true vomiting, rather than regurgitation. Although there are numerous causes of acute vomiting, esophageal foreign bodies should be the number one consideration for a patient that develops acute regurgitation.

Esophageal foreign bodies should be treated as medical emergencies. In the majority of cases, the patient’s history is suggestive of foreign body ingestion or the ingestion was actually witnessed by the owner. Most esophageal foreign bodies are bones that have recently been fed. However, other materials such as fish hooks, balls, toys, or even rocks can be seen. Usually these materials lodge in the areas of the esophagus with the most resistance, such as the thoracic inlet, heart base, or the lower esophageal sphincter. Depending on the size and shape of the material, pressure necrosis of the esophagus can occur within as little as 1-3 hours. If the material has sharp points, laceration to the esophagus can occur resulting in mediastinitis. Even blunt and small foreign bodies can cause ischemia and perforation of the esophagus within 2-3
days. Fortunately, most esophageal foreign bodies are easily diagnosed. Thoracic radiography is generally the first step and may show either bone, metallic, or soft tissue density in the esophagus. Dilation of the esophagus cranially to the lesion may also be present. If no foreign material is noted, performing a contrast esophagram with barium may be diagnostic. However, any evidence of pneumomediastinum, pleural effusion and/or an ill-defined fluid density near the esophagus suggests probable perforation of the esophagus and barium contrast should be avoided.

Once the foreign body is diagnosed, endoscopy (or surgery if esophageal perforation is noted) should be performed on an emergency basis. Prolonged exposure of the esophagus to foreign material increases the likelihood of erosion, ulceration, perforation and/or stricture formation.

In many cases, esophageal foreign bodies cannot be extracted with endoscopy. Occasionally, depending on the size and shape of the foreign body, it can be pushed into the stomach. If the material is digestible no further therapy may be needed. However, with others, it may be necessary to then perform a gastrotomy to remove the material. In these circumstances, endoscopy is still very beneficial as the surgical risk, complication rate, and invasiveness is much lower with a gastrotomy than a thoracotomy/esophagotomy.

Gastric foreign bodies are also seen very commonly and are often amenable to extraction with endoscopy. Unfortunately, gastric foreign bodies are often not as easily diagnosed as esophageal. Acute vomiting is the most likely clinical sign, although chronic GI signs are seen on occasion. Depending on the size and nature of the material, foreign bodies may remain in the stomach for a matter of several hours, or in some cases, even years. In some animals, foreign material may act as “ball valves” causing intermittent vomiting when pyloric outflow obstruction occurs. The major limitation of endoscopic extraction of gastric foreign bodies is the small number of retrieval devices available commercially. Therefore, each foreign body must be evaluated individually to determine the size, shape, and composition of material and ultimately whether it can be removed noninvasively.

A few foreign bodies that require special mention are pennies, sharp objects (i.e. needles, fish hooks), and linear foreign bodies. If any of these materials are seen or suspected, immediate therapy should be instituted. If treatment is not initiated quickly, severe damage or movement of the material into the intestines may occur, which then limits the ability of endoscopy to be beneficial. Pennies made after 1983 contain a large amount of zinc. As the gastric acid erodes the copper shell, zinc is released into circulation, which may result in a hemolytic anemia. Therefore, prompt removal of pennies is recommended. Sharp objects and string foreign bodies can cause severe injury or even perforation if not removed quickly and cautiously. Linear foreign bodies often become trapped in areas such as under the tongue or the pylorus. As the peristalsis occurs, the material becomes tensioned across the intestinal wall, leading to possible perforation and leakage of intestinal contents into the abdomen. Therefore, if one of these foreign bodies is suspected, treatment should be initiated quickly rather than allowing the material to “pass on its own.”

Should you ever have a patient with a foreign body and are trying to determine whether or not it can be removed endoscopically, please call us any time. UVS has an extensive inventory of endoscopic equipment and retrieval instrumentation. In conjunction with digital radiography and ultrasound capabilities, we aim to provide our referring veterinarians and clients with the highest level of care. If a foreign body is diagnosed or suspected, we can utilize these tools to determine if interventional endoscopy is appropriate to provide the least invasive therapy possible.
Methicillin-resistant Staphylococcus aureus (MRSA)
Now an emerging concern in veterinary medicine

Today it is very common to find stories in the press highlighting the problems associated with MRSA in human medicine. At the ACVS symposium last month an afternoon was devoted to discussing MRSA in veterinary medicine and its importance as a zoonosis and reverse zoonosis.

MRSA is differentiated from other Staph aureus species by the presence of an altered penicillin-binding transpeptidase. β-lactamic antimicrobial drugs are not capable of blocking the active site of this enzyme. This antibiotic resistance significantly increases the likelihood of treatment failure when a clinical infection arises because of the limited number of antibiotics available for therapy. Fortunately, the bacteria are susceptible to common disinfectants when they are in the environment.

Since the late 1960’s when the first cases of MRSA were detected in humans, a steady increase in the prevalence of MRSA has been observed. According to the Centers for Disease Control (CDC), 2% of all human nosocomial S. aureus infections in 1971 were produced by MRSA. In 2007, estimates of the prevalence of MRSA infections have ranged from 70% to 95%. The CDC estimates that 2.3 million people in the U.S. are colonized with MRSA. Healthcare and veterinary personnel are much more likely to be subclinically colonized than other groups because of their higher level of exposure to potentially infected or colonized patients.

It is clear that MRSA can be found in animals but it is important to highlight that it is a complex issue typically involving one of two distinct scenarios. The first scenario is referred to as the “spill over scenario” where human MRSA strains colonize or infect animals, with further transmission between animals and potentially back to humans. A less frequent scenario involves the transmission of unique animal strains of MRSA to humans.

So what should I do in my clinic?

**General hygiene** – Be aware that MRSA is ubiquitous in our environment. Practice good hygiene between patients by washing hands and sanitizing equipment and surfaces.

**Infected wounds** – Be proactive in culturing any infected wounds in your practice not only to guide therapy but also to protect the pet owner and the professionals handling that patient.

**Keep a log of all positive cultures** – Keeping a log of all positive cultures will provide an early warning indicator of any potential problems in your facility.

**Isolate infected patients** – Isolate any patient with a positive MRSA culture from the rest of your hospital population, use personal protective equipment when handling those patients, and disinfect all equipment and surfaces exposed to that patient.

**Contact a microbiologist/epidemiologist** – If you do notice a problem seek out advice early. Human hospitals have been dealing with this issue for a number of years and help is available.

For more information about MRSA, please visit cdc.gov/ncidod/dhqp/ar_mrsa.html

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Our second annual Paws For A Cause was held in September. Despite the rain, everyone had a fabulous time. The one mile walk was a great chance for dog lovers to enjoy each others company. After the walk, a live band kept everyone dancing, and we even had a dog conga line! Most importantly, we raised over $30,000 for the American Cancer Society. Our next Paws for a Cause walk will be held Saturday, October 2, 2010—so mark your calendar now! After all, “When Was The Last Time You and Your Dog Saved a Life?”

UVS announces the return of ophthalmology services to our Greenville hospital. Dr. Susette Aquino, a board certified ophthalmologist, began accepting patients for consultations and outpatient procedures earlier this fall. As a visiting specialist from Carolina Veterinary Specialists, Dr. Aquino currently sees patients every other Thursday in Greenville. To refer a patient for an ophthalmology consultation, please contact Carolina Veterinary Specialists in Huntersville at 704-949-1100. All referrals, appointments, and inquiries should go directly through their office.