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Case # 18

TITLE: Case Presentation: Intra-abdominal Gossypiboma

SIGNALMENT: 'Chelsea' five-year-old spayed female German shepherd dog, canine.

HISTORY: The patient presented apparently healthy to the Fort Belvoir, Veterinary Treatment Facility for an annual wellness examination. During the physical examination, an approximately 7.0 cm, firm, ovoid mass was palpated in the left caudal abdomen. No other abnormalities noted, no history of gastrointestinal, urinary tract, or other abdomen-related illness. An ovariohysterectomy was preformed, approximately three years ago. On abdominal radiographs, there is a 3.35 cm, round, soft tissue opacity in caudolateral aspect of the abdomen; on abdominal ultrasound, there is a 3.5 cm, round, cavitated mass in the vicinity of the left uterine horn. An ultrasound guided fine needle aspirate of the mass was consistent with moderate pyogranulomatous inflammation with intra- and extra cellular foreign material, more specifically cotton fibers. An exploratory laparotomy was preformed to remove the mass.

GROSS FINDINGS: The peritoneum was subjectively thickened and there were few minor fibrin adhesions randomly within the abdominal cavity. Firmly adhered to the mesentery, omentum and to the distal jejunal serosa, was a 9.0 x 6.0 x 3.0 cm, multilobulated, dark brown to black granular mass. On cut, surface the mass was firm with numerous fine white fibers embedded within the fibroadipose tissue. The mass was resected and mesenteric rents were closed and the abdominal cavity was copiously lavaged. Touch impression of the mass were submitted for cytopathology, along with formalin fixed tissue for histopathology.

CYTOPATHOLOGY FINDINGS:

Cytologic specimen, touch impressions (4) of abdominal mesenteric mass: Good quality, densely cellular cytological specimen composed of abundant activated macrophages with few spindle cells on a pale, eosinophilic, amorphous (proteinaceous) background with scattered erythrocytes, amorphous cellular debris and cholesterol crystals. Numerous variably preserved multinucleated epithelioid macrophages with microvacuolated cytoplasm often contain phagocytized basophilic material of variable length and width. There numerous fragments of opaque to deeply basophilic material of uniform width (5 – 10 µm) and variable length (30 –180 µm) birefringent material (fibers). Scattered throughout are macrophages with phagocytized yellow pigment (hematoidin) and golden brown pigment (hemosiderin). Occasionally, there are spindle-shaped mesenchymal cells with mild anisocytosis.

HISTOPATHOLOGY FINDINGS:

Adipose tissue, abdominal mass attached to omentum and distal jejunum (per contributor): Over 90% of the mesentery is replaced by granulation tissue which separates, surrounds, and replaces adipose tissue. There are numerous **multifocal to coalescing granulomas**, composed of a central core of negative staining acicular clefts (cholesterol clefts), admixed with moderate amounts of birefringent material of uniform width (5–10 mm) and variable length (30 –180 mm) (foreign body fibers) both individualized and in tight clusters often with deeply basophilic (mineral). Admixed with the foreign body fibers are swaths of eosinophilic cellular debris (necrosis) and polymerized fibrin. These areas are rimmed by numerous activated foamy macrophages that often have phagocytized amphophilic globule material (foreign-body fibers) and multinucleated epithelioid macrophages, which are further surrounded by several concentric circles of hypertrophic fibroblasts. Multifocally surrounding the granulomas are haphazardly arranged, fragmented, collagen fibers, which are dissected by abundant foamy macrophages, fewer lymphocytes, plasma cells and small caliber blood vessels and individualized foreign body fibers that are opaque to deeply basophilic. Scattered throughout are macrophages with phagocytized yellow pigment (hematoidin) and golden brown pigment (hemosiderin) and free erythrocytes (hemorrhage).

MORPHOLOGIC DIAGNOSES:

- 1) Fibroadipose tissue, abdominal mass attached to omentum and distal jejunum (per contributor): Steatitis (peritonitis), granulomatous, multifocal coalescing, marked, with intrahistiocytic and extracellular birefringent foreign fibers (cotton)
- 2) Cytologic specimen, touch impressions (4) of abdominal mesenteric mass: Marked granulomatous inflammation with abundant intrahistiocytic and extra cellular birefringent foreign fibers (cotton)

DISCUSSION:

Gossypiboma (or textiloma) is the human medical term most commonly used to describe the histopathological findings associated with a retained surgical sponge. Postoperative complications are highly variable, ranging from incidental to severe peritonitis often resulting in death. In the acute phase of infection, a diffuse peritonitis develops or with or without primary abscessation of the foreign material. Cases that further progress to the chronic phase, granulomas form around the foreign material, forming fibrosis adhesions to the abdominal serosa. Often a sterile encapsulation will occur and the foreign material granuloma, will remain subclinical. In most cases, such as this one, diagnostic imaging and cytological sampling aids in the initial diagnosis prior to surgical removal of the foreign material.

Iatrogenic foreign bodies are rarely reported in veterinary medicine with only a few case reports in the recent literature. When compared to human surgical complication statistics, veterinary medicine has much lower incidences of iatrogenic foreign bodies. There are many factors attributing to this low incidence rate, including but not limited to variable post-operative morbidity and mortality in animals, self-reporting of by veterinarians and animals lost to follow-up.

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