By Boaz Man, DVM
For The Education Center

In a neutered 6-year-old domestic shorthair male cat (Figure 1), presented to Boca Midtowne Animal Hospital for a second opinion on two large, erythematous, infected dermal masses attached to the plantar aspect of two separate digital pads of his left pelvic limb (Figures 2-A, 2-B). The previous veterinarian had recommended amputation of the digits due to the rapid growth of these masses and concern for inadequate surgical margins.

Histopathology of the masses confirmed the diagnosis of plasma cell pododermatitis. Chronic active, diffuse and severe with ulceration and granulation tissue (Figure 3). This disease is seen uncommonly in cats and rarely in dogs. Lesions may be confined to a single pad or may involve multiple pads or feet. In some cases, increased vascular fragility may result in secondary hemorrhage. Chronic involvement of a single pad may respond best to surgical removal. The cause of plasmacytic pododermatitis is not known; presumably the lesions result from persistent antigenic stimulation, as seen in chronic-plasmacytic inflammation of mucous membranes. A few cats have coexistent plasma cell amyloidosis.

Upon physical examination, an indolent violet ulcer was found on the upper lip (Figure 4). This patient previously had been treated for suspected parasitic granuloma complex with corticosteroids and antibiotics, he had only a partial response to treatment. Aspiration of this patient revealed a grade 3-5 dental tartar murray.

Pretreatment testing included complete blood count, a complete chemistry profile, a cardipulmonary X-ray, a hematology test, a urinalysis, a full body digital radiographs and a virus/feline immunodeficiency virus snap test, a feline leukemia virus test, a thyroid blood test and a feline retrovirus snap test. Preanesthetic testing, anesthetic medications included a premedication with intramuscular butorphanol, induction with propofol and anesthetic maintenance with isoflurane gas via an endotracheal tube. All preoperative tests were performed every 72 hours.

Results, benefits of laser surgery

The primary benefit of the laser procedures includes a virtual elimination of bleeding, which allows for full visualization of the large masses, obtaining wide and appropriate surgical margins and providing a cosmetically pleasing, limb sparing procedure. In these cases, surgical time is reduced, which greatly speed up the recovery period. This patient was bandaged postoperatively and remained in our clinic for 24 hours to ensure proper healing and postoperative care. Bandage changes were performed every 72 hours.

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Feline plasma cell pododermatitis: Surgical treatment with a flexible fiber CO2 laser

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In too, a neutered 6-year-old domestic shorthair male cat (Figure 1), presented to Boca Midtowne Animal Hospital for a second opinion on two large, erythematous, infected dermal masses attached to the plantar aspect of two separate digital pads of his left pelvic limb (Figures 2-A, 2-B). The previous veterinarian had recommended amputation of the digits due to the rapid growth of these masses and concern for inadequate surgical margins.

Histopathology of the masses confirmed the diagnosis of plasma cell pododermatitis, chronic active, diffuse and severe with ulceration and granulation tissue (Figure 3). This disease is seen uncommonly in cats and rarely in dogs. Lesions may be confined to a single pad or may involve multiple pads or feet. In some cases, increased vascular fragility may result in secondary hemorrhage. Chronic involvement of a single pad may result in surgical removal. The cause of plasma cell pododermatitis is not known, presumably the lesions result from persistent antigenic stimulation, as seen in chronic plasmacytic inflammation of mucous membranes. A few can have consistent plasma cell stomatitis, immuno-mediated glomerulonephritis or retinal amyloidosis.

Upon physical examination, an indolent violet ulcer was found on the upper lip (Figure 4). This patient previously had been treated for suspected cosinophilic granuloma complex with corticosteroids and antibiotics; he had only a partial response to treatment. Aspiration of this patient revealed a grade 3 dental tumor nodule.

Preshapeametic testing, anesthetic medications
Preoperative tests included a complete blood count, a comprehensive chemistry panel, a cardiac panel, and a urinalysis. A few days before surgery, a premedication with intramuscular acepromazine was given. The patient was premedicated and taken to the surgical suite. Prior to induction, the patient was placed on anesthetic monitoring, including pulse oximetry, capnometry, and end tidal carbon dioxide. A sedative preparation was given with the goal of maintaining a quiet patient. The patient was placed on propofol anesthesia with intermittent spontaneous ventilation. After induction, the patient was intubated and maintained with endotracheal anesthesia using a ventilator. The patient was monitored throughout the surgical procedure and during the postoperative period.

Surgery
Two dermal growths were removed via laser excision (Figures 5, 6, 7). Simple interrupted 3-0 absorbable sutures were placed in the subcutaneous layer. The skin was closed using 3-0 nylon sutures in a simple interrupted pattern. (Figures 8, 9). The patient was bandaged postoperatively and remained in our clinic for 24 hours to ensure proper healing and postoperative care. Bandage changes were performed every 72 hours.

Results, benefits of laser surgery
The primary benefit of the laser procedures includes a virtual elimination of bleeding, which allows for full visualization of the large masses, obtaining wide and appropriate surgical margins and providing a cosmetically pleasing, non-scarred procedure. In these cases, surgical time is reduced, which permits for a smoother anesthetic period and quick patient recovery. Histopathology was consistent with a severe case of plasma cell pododermatitis, and the patient recovered remarkably well in our hospital. In summary, this patient, who presented with painful, indolent lesions that were deemed "unresectable," had a successful operation. Postoperatively, the surgical site had no evidence of swelling or bleeding, and this patient was active and energetic within a short period.

Figure 1: Moo, the patient.

Dr. Boaz Man is the medical director and owner of Boca Midtowne Animal Hospital in Boca Raton. Dr. Man, a South Florida native, has been passionate about caring for pets needs since childhood. He graduated from Saint Andrews High School in Boca Raton in 1995 and completed a bachelor's degree in biology with a double minor in chemistry and Judaic studies from the University of Miami in 1999. He received his doctorate of veterinary medicine from Ross University in 2004 after completing his clinical training at Oklahoma State University. He believes in providing the highest quality of care to his patients and those who love them, and has special interests in dermatology, internal medicine and surgery. He takes great pride in his commitment to practicing cutting-edge medicine and diagnostics, and believes staying up to date with technology is one of the many essential keys to practicing good medicine.

The Education Center article was underwritten by Aesculight of Woodinville, Wash., the manufacturer of the only American-made CO2 laser.