Case # 10
42nd Annual SEVPAC
May 17, 2014
Kathy-Anne Clarke
Babu

- Babu is a 10-year-old spayed female French Bulldog.
- Chronic weight loss over 4 months.
- Febrile and lethargic at the referring veterinarian. She was treated with IV fluids and antibiotics.
- Little improvement was noted after discharge.
- Radiographs taken at the follow-up visit were suggestive of a possible abdominal mass.
- Babu was then referred to the Animal Health Center, MSU-CVM.
Clinical findings

- Babu’s hematocrit was 19.6% with regenerative anemia
- Albumin was decreased, 2.1 g/dl
- Thoracic radiographs did not reveal metastasis
- An ultrasound detected an abdominal mass originating from the intestines or pancreas along with fluid in the peritoneal cavity
- Aspiration of the mass and fluid were consistent with septic purulent inflammation
- A CT confirmed that the abdominal mass originated in the intestine
- A blood transfusion was given prior to surgery.
- The mid-duodenal mass was resected with anastomosis. The mass was submitted to the biopsy service of the MSU CVM
Abdominal ultrasound
Duodenal mass
Final diagnosis
Intestinal extraskeletal osteosarcoma
Intestinal neoplasia in dogs

- Intestinal tumors are uncommon; approximately 3% of all canine tumors
- The majority are malignant (88% vs 12% benign)
- Tumors are more frequent in the large intestine
- Occur in older animals around 6 - 9 years; males are overrepresented
- German Shepherds and Collies may be predisposed
- Lymphoma is the most common tumor (29%), leiomyosarcoma (23%) and adenocarcinoma (17%)
- Other reported tumors include GIST, extramedullary plasmacytoma, mast cell tumors, hemangiosarcoma and extraskeletal osteosarcoma
Criteria for diagnosis of extraskeletal osteosarcoma

- No clinical, radiologic or pathologic evidence of bone involvement
- Histologic evidence of production of osteoid or chondroid by the neoplastic cells (Patniak 1990)

CASE REPORT

Primary mesenteric root osteosarcoma in a dog
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The gold standard for diagnosis of osteosarcoma is histopathologic evaluation. A diagnosis of extraskeletal osteosarcoma is based on finding sarcomatous tissue with production of nonmineralized osteoid, mature mineralized bone, or both, coupled with a high mitotic index. Exclusion of metastatic skeletal osteosarcoma is essential.
Extraskeletal osteosarcoma in animals

- Approximately 50 documented cases of extraskeletal osteosarcoma
- The majority of cases are in dogs but there are also sporadic reports in cats, a goat, a rabbit, a maned wolf and an African hedgehog
- Most canine extraskeletal osteosarcomas develop in visceral organs - intestine, kidney, adrenal gland, liver, spleen, testicle vagina
- Tumors of the mammary gland are excluded as such tumors are better designated as mixed mammary carcinoma
- Extraskeletal osteosarcomas occur in older dogs with a median age of 11.5 years. There is no breed or sex predilection. Conversely the median age of occurrence for skeletal osteosarcomas is 7 years, giant breeds are predisposed.
Extraskeletal osteosarcoma in humans

- Extraskeletal osteosarcomas are also rare in human patients (~ 300 cases)
- In contrast to their occurrence in animals the majority of cases in humans are found in the extremities (skeletal muscle and soft tissue)
- Similar to dogs human patients are older; females are predisposed
- A history of prior trauma at the site is documented in approximately 25% of cases; 10% had prior irradiation at the site
- High rates of metastatic disease (lung, regional LNs, liver and heart)
- Prognosis is generally poor with overall survival at 5 years being approximately 25%
Summary

- Extraskeletal osteosarcomas are rare in both human and veterinary patients
- Extraskeletal osteosarcomas are more aggressive than skeletal osteosarcoma and have a shorter survival time
- Babu’s intestinal mass is consistent with an extraskeletal osteosarcoma as the pleomorphic mesenchymal cells produced tumor osteoid
- Although rare extraskeletal osteosarcoma should be included in a differential for high grade spindle cell sarcomas
Questions?