

**COMPARISON OF DUAL-PHASE 64-DETECTOR CTA AND 1-TESLA MRI FOR DETECTION OF PERITUMORAL PROJECTIONS IN PRE-SURGICAL EVALUATION OF FELINE INJECTION SITE SARCOMAS.** S. Nemanic, M. Milovancev, J.L. Terry, S.M. Stieger-Vanegas, C.V. Löhr. Oregon State University<sup>1</sup>, Oregon, 97331.

Introduction: Feline injection site sarcomas (FISS) grow locally aggressive neoplastic extensions with deep, unpredictable infiltration into surrounding tissues. Infiltrating tumor extensions cannot be identified during surgery. CT and MRI are used for pre-surgical planning to determine tumor extent. We evaluated the ability of dual-phase CT angiogram (CTA) and MRI to identify neoplastic extensions of FISS, verified against histopathology.

Methods: Cats with FISS received both CTA and MRI of the FISS and surrounding area immediately followed by wide surgical excision. A custom-made triangular fiducial marker suitable to both CT and MRI was sutured over the FISS as a standardized reference point. CTA included pre-contrast, post-contrast arterial and venous phases. MRI included STIR and pre- and post-contrast T1 fat-saturated pulse sequences. Histologic sampling included the mass and peritumoral lesions identified on pre-operative CTA and/or MRI.

Results: 9 cats had imaging and histopathology. Peritumoral lesions were identified in all cats (3-7 per cat) resulting in a total of 72 peritumoral lesions, 39 seen on CTA and 33 on MRI, 16 of which were seen with both modalities. Neoplastic infiltration was identified in 10/72 peritumoral lesions (across 5 cats); 6 of these were seen on CTA and MRI, 2 only on CTA, and 2 only on MRI. The imaging characteristics of neoplastic and non-neoplastic peritumoral lesions overlapped.

Conclusion: Less than 15% of CTA and MRI identified FISS peritumoral lesions are neoplastic. 60% of neoplastic extensions were seen on both CTA and MRI, while 20% were seen only on CTA or only on MRI.