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Accuracy of computed tomography contrast enhancement in detecting lymph node metastasis for canine apocrine gland anal sac adenocarcinoma.

apocrine gland adenocarcinoma of the anal sac (AGASACA) represents 17% of perianal tumors and 2% of all skin tumors in the dog. Treatment can be challenging given its local invasiveness, rapid metastasis to regional lymph nodes (iliosacral center) and potential for paraneoplastic hypercalcemia. Reported metastatic rates in dogs with AGASACA are variable, with 36-96% of affected dogs having lymph node metastasis at the time of diagnosis. Distant metastatic sites have been reported to develop later in the course of the disease. The standard clinical approach to staging a patient with AGASACA involves complete bloodwork, thoracic imaging (3 view thoracic x-rays or computed tomography (CT)) and abdominal imaging (abdominal ultrasound (AUS) or CT). Although AUS has shown to be an effective screening test for lymphadenomegaly in dogs with AGASACA, CT is a more accurate technique for identification of which specific nodes are enlarged and should be considered for staging and therapeutic planning. Currently, there is an increase in prevention and screening of some cancers in human oncology. Seemingly, in veterinary oncology early diagnosis of certain cancers offer some challenges to clinicians regarding diagnostic and therapeutic recommendations. Routine rectal examinations may detect a localized AGASACA that remains localized within the anal sac. However, it is not uncommon to detect mild iliosacral lymphadenopathy on abdominal imaging to stage AGASACA. Due to anatomical limitations (pubis, iliac arteries or veins), often those regional lymph nodes may not be accessible to radiologists to perform fine needle aspirates or biopsies with the goal of detecting metastatic disease. Thus, a caudal laparotomy and dissection of the affected lymph nodes may be needed for staging. Due to the invasiveness and potential complications from this approach, surgeons and owners may elect monitoring of the potentially metastatic lymph nodes until more convincing metastatic imaging appearance or confirmation via cytology. Unfortunately, this conservative approach may have a negative effect in disease free interval and median survival. Therefore, a non-invasive technique that can predict lymph node metastasis before therapeutic lymph node removal is necessary. The goal of this study is to determine if contrast enhancement patterns in CT of iliosacral lymph nodes would predict metastasis in dogs affected by AGASACA. This study may involve a retrospective (multi institutional) phase and a prospective phase, depending on the number of cases that we can accrue.

The student will help with data accrual, CT measurements of the lymph nodes, statistical analysis as well as writing the manuscript with direct supervision and support of the Principal Investigator. Authorship will be determined (first author or second author) depending of the percentage of time and effort to each phase of the project. .