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Introduction

Colorectal tumors are uncommon in dogs and due to the non-specific clinical presentation, an early diagnosis is challenging. In human medicine, computed tomography (CT) represents a reliable technique to define the precise location of the lesion and to perform an accurate tumor staging. The aim of this retrospective study was to define the tomographic features of colorectal tumors in dogs and the utility of CT in tumor staging.

Materials & Methods

Dogs with histologically-diagnosed colorectal tumours that underwent pre- and post-contrast CT pneumocolography between 2018 and 2022 were included. For each case, location, thickness, extension, contrast enhancement, invasiveness of the colorectal lesion was evaluated. Regional lymphadenopathy and distant metastasis were also noted.

Results

POPULATION

Eight dogs with different colorectal tumors were included: adenocarcinoma (n=4), carcinoma (n=2) and leiomyosarcoma (n=2). Lesions were located at colorectal (n=4), colic (n=3), and anorectal (n=1) level.

CT FINDINGS

Mean tumour extension was 53 mm \pm 23 mm.

All cases but one had circumferential transmural thickening with asymmetrical appearance in 85% of dogs (Figure 1). One case of leiomyosarcoma showed a mineralized exophytic mass (Figure 2).

Mean pre- and post-contrast densities were 48 \pm 6.2 HU and 92 \pm 13 HU, respectively, with heterogenous enhancement in all dogs. Adherences with surrounding structures (i.e. spleen, bladder, sacrocaudal muscles) were suspected in 4 cases (Figure 3).

Invasion of surrounding structures (i.e. anal sacs and tail muscles) was observed in one adenocarcinoma.

Regional lymphadenopathy (jejunal, colic, caudal mesenteric and/or ileo-sacral lymph nodes) was noted in all cases.

Distant metastases were not detected.



Figure 1. Transverse scan of a dog with anorectal carcinoma. Note the severe asymmetrical circumferential wall thickening of the anorectum (white arrows) associated with stenosis of the lumen



Figure 2. Transverse scan of a dog with colonic leiomyosarcoma. Note the exophytic soft tissue mass at the level of descending colon characterized by heterogeneous enhancement. Multiple foci of intralésional mineralization are present.



Figure 3. Transverse scan of a dog with colorectal tubular adenocarcinoma. Note the severe symmetrical circumferential wall thickening of the colorectum (white arrows) associated with stenosis of the lumen. An adherence with the wall bladder is also visible.

Discussion/Conclusion

CT may be useful in the evaluation of colorectal tumors, in particular for identifying location, extension and invasiveness. Therefore, CT evaluation of colorectal tumors is useful in presurgical planning. Further studies are needed to understand its accuracy in tumor staging.

References

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