

COMPUTED TOMOGRAPHY OF HYPERATTENUATING BONE MARROW LESIONS IN THE FEMURS OF DOGS AND CATS.

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Purpose:

- Study hyperattenuating bone marrow lesions (HBMLs) in dogs and cat using computed tomography
- Investigate associations between Hounsfield units (HU), distributions or patterns of HBMLs to hematologic changes and clinical diagnoses

Methods:

- Retrospective study of contrast enhanced CT scans including the femurs in patients with concurrent CBC data

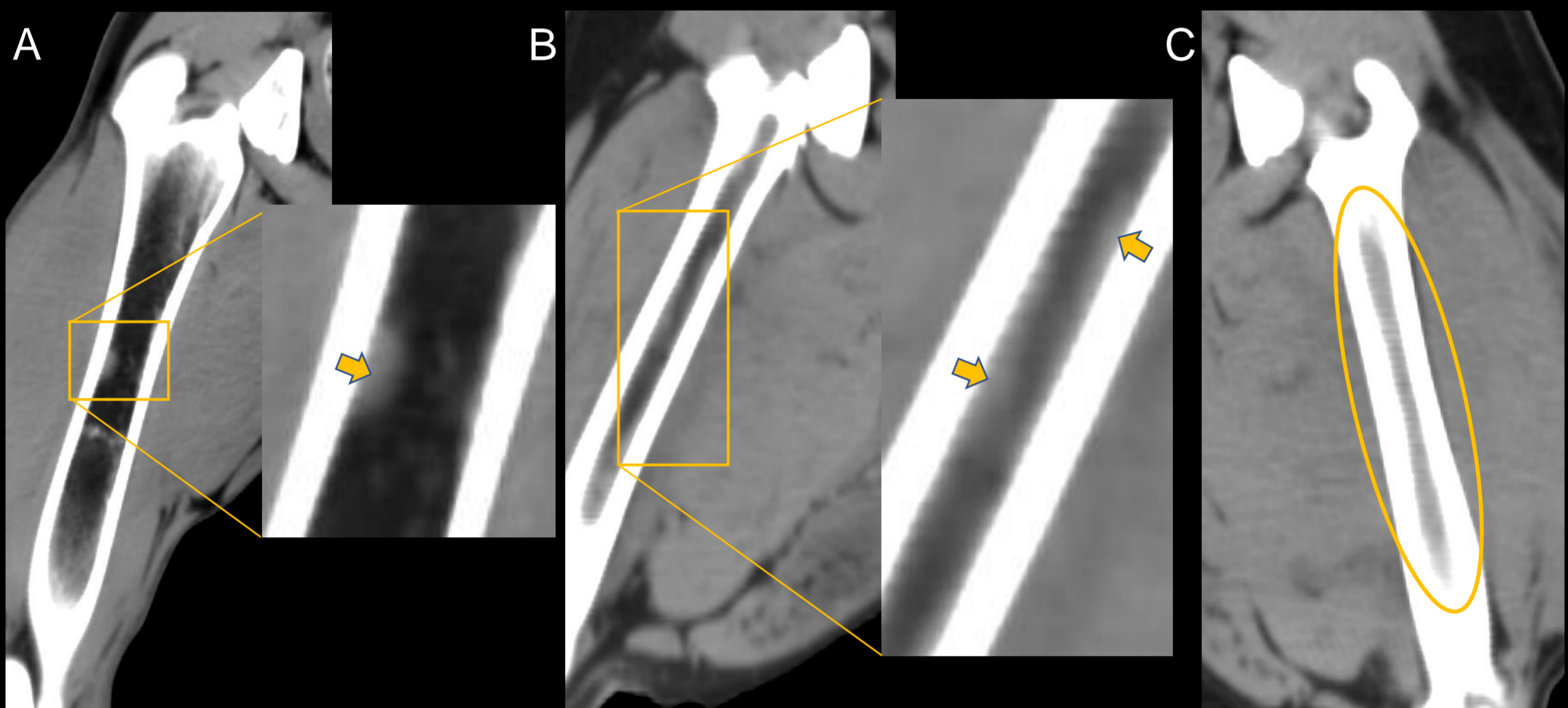


Figure 1: Pre-contrast CT images of the femoral medullary cavities showing characteristic focal (A), scattered/multifocal (B) and diffuse (C) patterns of HBMLs.

Table 1: Shows mean pre-contrast, maximum pre-contrast and mean post contrast HU values for various CBC classifications and clinical diagnoses

	Mean pre-contrast HU	Mean post contrast HU	Max pre contrast HU
All HBMLs	54.6	76.5	80.4
CBC classifications			
Normal	52.0	73.1	79.4
Inflammatory leukogram	55.4	78.7	78.4
Regenerative anemia	69.3	96.1	96.9
Non-Regenerative anemia	45.2	64.8	67.5
Myelofibrosis	54	87	81
Cytopenias	38.5	70.5	62
Clinical diagnoses			
Inflammatory	44.2	64.6	66.1
Infectious	58.6	81.1	87.3
Neoplastic	58.6	81.6	84.4
Metabolic	32.7	58.0	59.3
Bone marrow	72.5	97.5	97.5
Miscellaneous	43.8	72.4	58.9

Results:

- 124 (109 dogs and 15 cats) of 605 met inclusion criteria.
- Common hematologic patterns included normal, inflammatory leukograms and anemia (regenerative or non-regenerative).
- Most common clinical diagnoses included neoplasia, inflammatory or infectious etiologies.
- Several HBML distributions or patterns were seen in the animals in the majority of CBC classifications and clinical diagnoses.
- Fisher's exact test showed no significant relationships between hematologic classification, clinical diagnosis and distribution of HBMLs.

Discussion:

- HBMLs can be detected using CT in dogs and cats, however the HU and distribution or pattern of HBMLs was not associated with hematologic findings or clinical diagnoses.
- Further investigation is needed to determine the diagnostic utility of HBMLs detected using CT.