

A. De Bonis¹, F. Collivignarelli¹, I. Falerno¹, V. Rinaldi¹, R. Tamburro¹, A. Paolini¹, A. Bianchi¹, R. Terragni², J. Gianfelici³, P. Frescura⁴, G. Dolce⁵, E. Pagni⁶, M. Vignoli¹

¹Faculty of Veterinary Medicine, University of Teramo, Teramo, Italy. ²Clinica Veterinaria Pet Care, Bologna, Italy.

³Clinica Veterinaria Val Musone, Osimo (AN), Italy. ⁴Clinica Veterinaria Pescara Nord, Pescara, Italy. ⁵Policlinico Veterinario Roma Sud, Roma, Italy. ⁶Clinica Veterinaria Etruria 24H, Siena, Italy

INTRODUCTION

Mast cell tumor (MCT) is a common cutaneous and subcutaneous neoplasia in dogs. They can metastasize to lymph nodes (LNs) and this affect the prognosis. Sentinel lymph node (SLN) assessment represents a more specific site to evaluate the draining LN compared to regional LNs. The study aims to evaluate the SLN drainage mapping of MCTs.

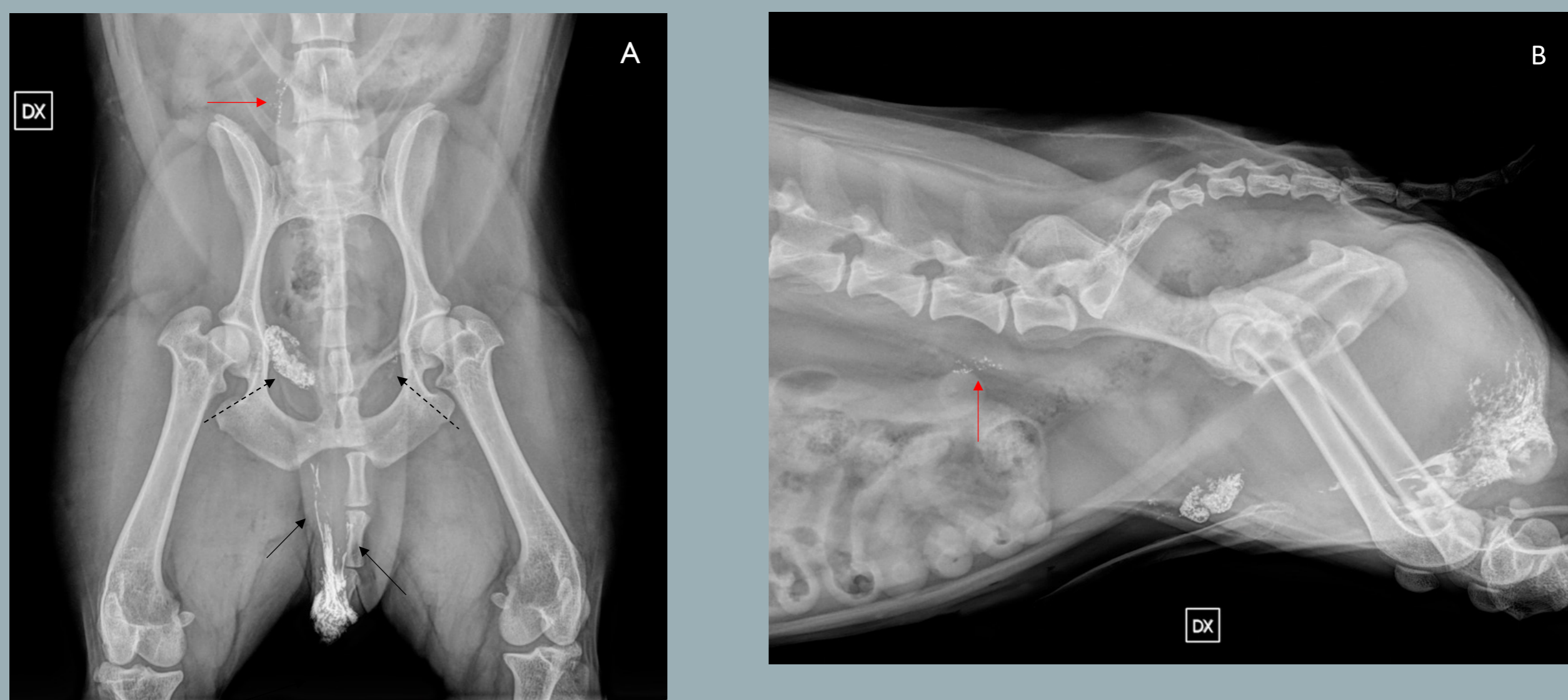


Fig. 1. Radiographic indirect lymphangiography 24 hours post Lipiodol in two orthogonal views of a MCT in the scrotum with three SLNs: (A) VD view of the pelvic region. Lymphatic vessels are visible on both views extending cranially (*black arrows*), inguinal lymph nodes are highlighted by the (*black dashed arrow*); (B) Right lateral view of the pelvic region. The right medial iliac SLN can be assessed ventrally to L6 and to the right of L6 in the VD highlighted by the *red arrow*.

METHODS

Dogs were prospectively enrolled and survey radiographs followed by an indirect lymphography were obtained for sentinel LN mapping. Contrast (Lipiodol) was injected around the MCT or the surgical scar. After 24h LNs that picked up the contrast were radiographically visible. MCTs were confirmed histologically and LNs either by cytology and/or histology.

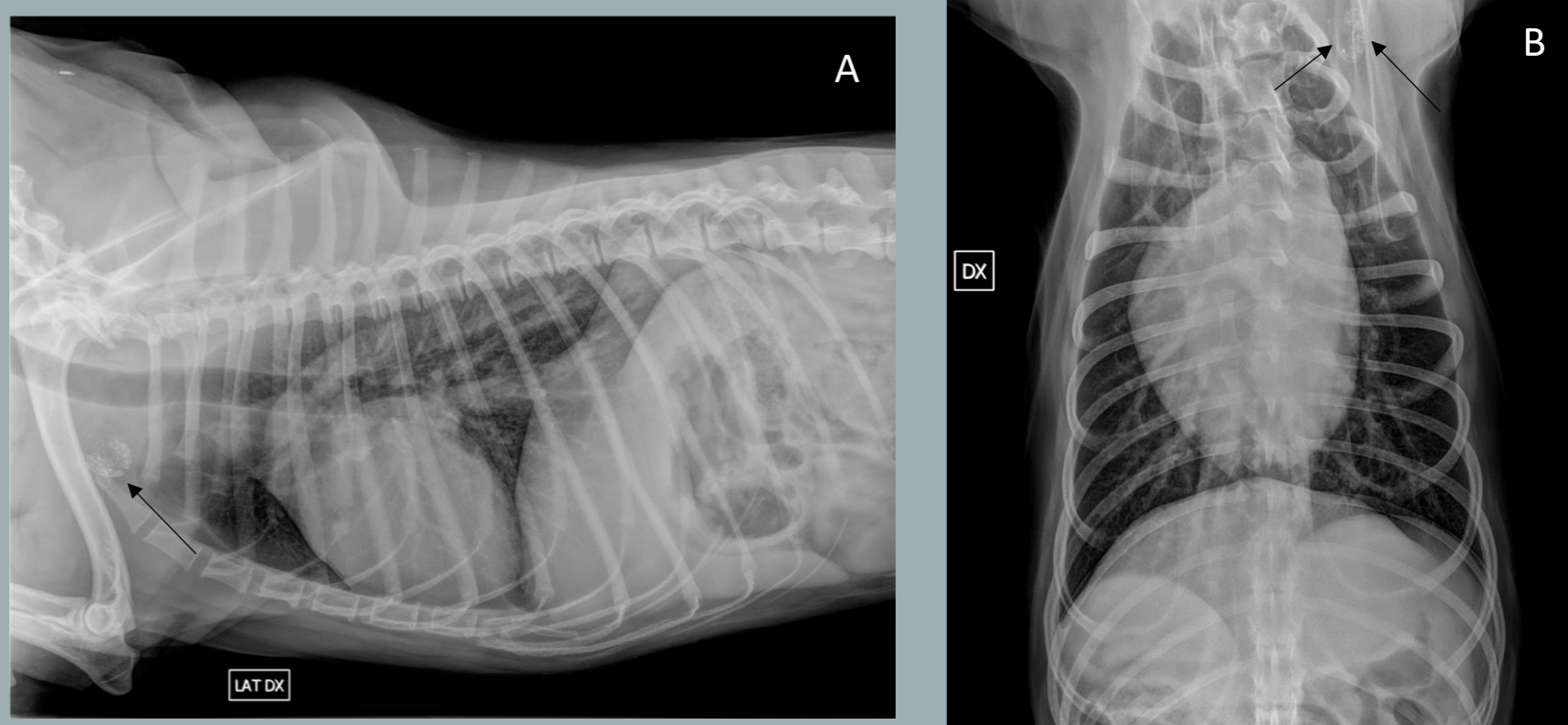


Fig. 2: Radiographic indirect lymphangiography 24 hours post Lipiodol of a MCT in the left abdominal wall. (A, B) right lateral and VD view of the thorax. The left axillary SLN is highlighted by the *black arrow*;

RESULTS

25 dogs and 29 MCTs were included. SNLs were detectable in 24 dogs. Lymphatic vessels were visible in 17 MCTs. In 12 MCTs at least two LNs picked up contrast. Among them 4 MCTs involved three different LNs. In two cases the ipsilateral and contralateral LNs to the MCT were encompassed. In 5 MCTs the regional LN was not involved and drained into a different SNL. In 12 MCTs the SNLs were metastatic.

CONCLUSION

This study indicates that the lymph drainage pattern of the MCTs may be different for each tumor. More than one LNs and contralateral LNs can be involved. Regional LN can be passed over for a different SLN. The knowledge of the precise drainage pattern and SLN of the MCTs would provide clinically relevant information to remove the LN and staging the patient.

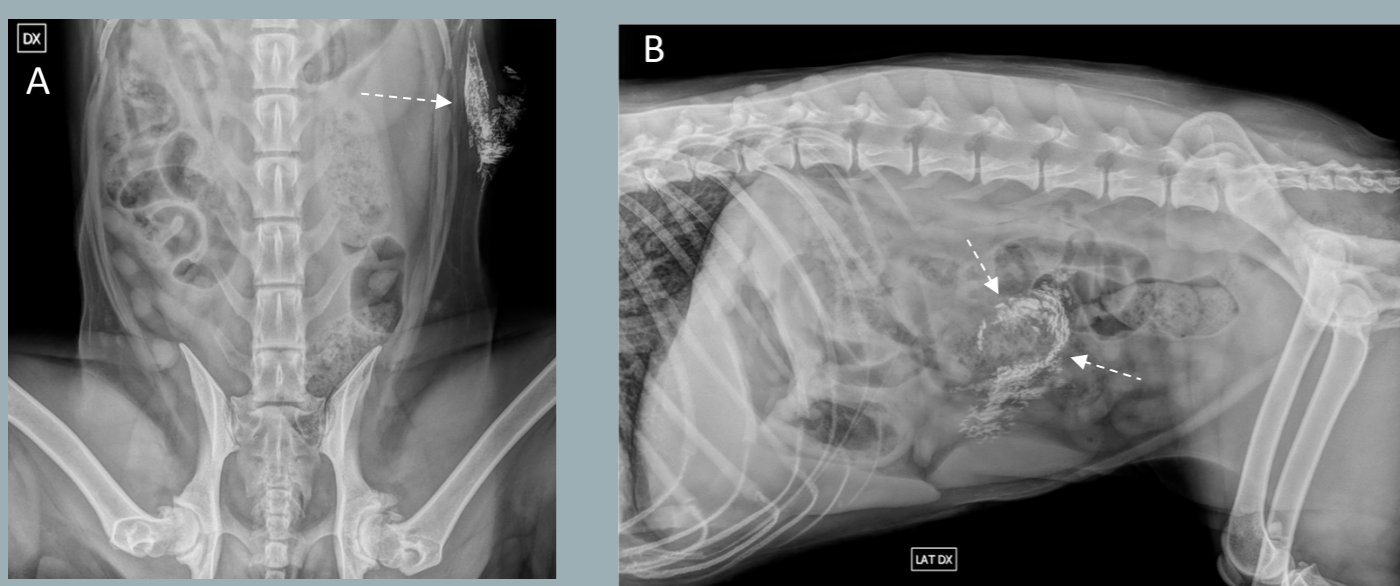


Fig. 3: (A, B) Right lateral and VD view of the abdomen of the same dog on Fig. 2 The Lipiodol was injected at the periphery of the tumour in the left abdominal wall (*white dashed arrow*).