

**CUTANEOUS DRAINAGE LYMPHATIC MAP WITH INTERSTITIAL
MULTIDETECTOR-ROW COMPUTED TOMOGRAPHIC
LYMPHOGRAPHY USING IOPAMIDOL: PRELIMINARY RESULTS**

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ABSTRACT

We performed preliminary tests of the feasibility of multi-detector computed tomographic lymphography (MDCT-LG) with interstitial injection of iopamidol for mapping cutaneous lymphatic drainage pathways. MDCT-LG images were obtained following cutaneous injection of a total of 1ml iopamidol bilaterally into hind legs of 10 dogs. The locations of the first draining lymph nodes were marked on the skin under MDCT-LG guidance. Five dogs served for postmortem examination of lymphatic anatomy, and the remaining 5 underwent MDCT-LG after ligation of the afferent lymphatic vessels of the first draining popliteal nodes. Clinically, MDCT-LG was attempted in 6 patients with cutaneous malignant melanoma and compared with Tc-99m-human serum albumin lymphoscintigraphy. MDCT-LG clearly visualized the first draining lymph nodes and their afferent lymphatic vessels draining from the contrast injection sites with detailed underlying anatomy in all dogs. At surgery, all these first draining nodes could be found at predicted locations under MDCT-LG guidance. MDCT-LG showed rerouting of lymphatic vessels after ligation of the afferent lymph vessels of the popliteal nodes in the second 5 dogs. Clinically, MDCT-LG also allowed accurate mapping and biopsy of the first draining nodes from primary tumors at predicted locations, with minimal skin incision. Lymphoscintigraphy failed to identify these nodes due to overlapping radioactivity of clustered nodes or transport of the radiotracer to subsequent distant nodes in 4 patients. Although a more extensive study is warranted for further validation, preoperative interstitial MDCT-LG appears to have the potential feasibility for accurate sentinel lymph node mapping and biopsy in patients with cutaneous melanoma.