

Radiographic and Computed Tomographic Lymphography by Ultrasonographic Guided Percutaneous Injection of Contrast Media into Popliteal Lymph Node

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Introduction: The purpose of this study was to establish a ultrasound-guided percutaneous lymphography through the injection of the contrast media into the popliteal lymph node and to compare the radiographic and computed tomographic appearance of canine thoracic duct after popliteal lymphography.

Materials and Methods: Three different doses (30, 60, and 90 mgI/kg) of water-soluble iodinated contrast media was injected under the guidance of ultrasonography into 15 popliteal lymph nodes of 10 adult beagle dogs and fluoroscopy and computed tomography were obtained. Filling time and duration time of contrast media from popliteal lymph nodes to the thoracic duct and its branches were recorded and the number of visible ducts were compared between both imaging modalities at the sixth thoracic vertebra through the first lumbar vertebra (T6, T8, T10, T12, and L1).

Results: Dose of contrast media did not affect the filling time ($P=0.281$) and duration time ($P = 0.114$) of thoracic ducts. Mean duration time with the 60mgI/kg was 830 sec and mean filling time was 118 sec. Radiographs obtained at 118 and 950 seconds after injection of contrast medium provided the diagnostic detail of thoracic duct. Significant differences in numbers of thoracic ducts were found at T12 between fluoroscope and computed tomograph.

Clinical Relevance: Direct injection of contrast media into a popliteal lymph node under the guidance of ultrasonography appears to be a feasible technique for delineation of the thoracic duct and its branches in dogs. Also, this data be valuable for detection of inguinal lymphadenopathy. Computed tomographic lymphography may be able to quantify branches of the thoracic duct more accurately than radiographic lymphangiography.

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