

ACCURACY OF COMPUTED TOMOGRAPHY IN DETERMINING MALIGNANT CERVICAL LYMPHADENOPATHY BASED ON NODE-RADS 1.0

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ABSTRACT

Background : The prevalence of head and neck cancer is increasing worldwide. The involvement of lymph nodes in the head-neck region is a sign of the spread of cancer through the lymph vessels, which causes changes in size and configuration, called lymphadenopathy. Often the determination of lymphadenopathy by the pathological process of Computed Tomography(CT) ran into problems, so in 2020, Elsholtz et al. introduced Node Reporting and Data System 1.0 (Node-RADS 1.0) to align the lymph node scoring system.

Objective : This study aims to assess the accuracy of CT in determining malignant lymphadenopathy of the neck based on Node-RADS 1.0.

Materials and Methods : This study used an analytic observational method using secondary data on 40 subjects with clinical neck lumps who had undergone cervical contrast enhance CT (CECT) examinations at Department of Radiology, Dr. Sardjito General Hospital Yogyakarta, from January 2018 to December 2019. Through neck CECT images, the largest lymphadenopathy was assessed, which was recommended for Fine Needle Aspiration Biopsy (FNAB) guided by ultrasonography (USG), and the result of examinations were used as the gold standard. Lymphadenopathy was assessed based on size criteria on a short axis >5mm (neck), and configuration criteria based on the Node-RADS 1.0 table. Then do the analysis data with 2x2 table diagnostic test.

Result : There were 40 patients underwent cervical CECT examination. 28 (70%) were found with suspected malignant lymphadenopathy on neck CECT, while from the Histopathology results obtained through FNAB guided USG, there were 25 samples (62.5%) proved malignant lymphadenopathy. From both CECT examinations of the neck and histopathology were found true positive malignant lymphadenopathy were 20 samples (50%) had an accuracy of 67.5%, with a sensitivity of 80.0%, a specificity of 46.7%, a PPV of 71.4%, NPV 58.3%, LR(+) 1.5, and LR(-) 0.42.

Conclusion : The accuracy of cervical CECT in determining malignant lymphadenopathy based on Node-RADS 1.0 is 67.5%; therefore, CT still has power as a diagnostic tool, especially in determining lymphadenopathy where the primary tumor is unknown, helping clinicians to assess patient prognosis.

Keywords : Malignant lymphadenopathy, CT accuracy, Node-RADS 1.0