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Sonographic Diagnosis of Metastatic Cervical Lymph Nodes in Primary Orofacial Malignancies: Role of the Radiologist's Experience

Diagnostic Echographique des Ganglions Lymphatiques Cervicaux Métastatiques dans les Tumeurs Malignes Orofaciales Primaires : Rôle de l'Expérience du Radiologue

U. A. Okeke*[†], J. B. Igashi[‡], M. A. Hamza[§], S. O. Ajike[¶], B. D. Saheeb^{††}

ABSTRACT

BACKGROUND: There is uncertainty surrounding the choice of a better imaging modality to detect metastases in cervical lymph nodes. The aim of this study is to examine the role of Ultrasound in the diagnosis of metastatic cervical lymph nodes in orofacial malignancies in a resource limited environment and the effect of the radiologist's experience in interpretation of the results.

METHODS: Sixty patients with various histologically diagnosed orofacial malignancies and clinical evidence of cervical lymph nodes metastases were examined with ultrasound by a consultant and a trainee radiologist. Affected lymph nodes were subsequently biopsied and examined histologically. The sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and accuracy were calculated. Data were analyzed using Statistical Package for Social Sciences (SPSS) version 19 (SPSS Inc., Chicago, IL, USA) and Microsoft Excel 2010 (Microsoft, Redmond, WA, USA). Test of statistical significance was set at 0.05.

RESULTS: Ultrasonography examination by the consultant radiologist recorded a sensitivity of 80.0%, specificity of 57.1%, PPV of 77.5%, NPV of 60.0%, accuracy of 71.7% and a *P* value of 0.004. The trainee radiologist recorded a sensitivity of 69.2%, specificity 38.1%, PPV of 67.5%, NPV of 40.0%, accuracy of 58.3% and a *P* value of 0.566.

CONCLUSION: Ultrasonography is useful in the diagnosis of metastatic cervical lymph nodes in orofacial malignancies and the interpretation and reliability of the results depend on the experience of the radiologist. Examination of patients should therefore be done and interpreted by an experienced radiologist. *WAJM* 2021; 38(1): 24–27.

Keywords: Orofacial, Ultrasonography, Lymph node, Metastases, Cervical, Zaria.

RÉSUMÉ

CONTEXTE: Le choix d'une meilleure modalité d'imagerie pour détecter les métastases dans les ganglions lymphatiques cervicaux est incertain. L'objectif de cette étude est d'examiner le rôle des ultrasons dans le diagnostic des ganglions lymphatiques cervicaux métastatiques dans les malignités orofaciales dans un environnement aux ressources limitées et l'effet de l'expérience du radiologue dans l'interprétation des résultats.

MÉTHODES: Soixante patients présentant diverses malignités orofaciales diagnostiquées histologiquement et des signes cliniques de métastases des ganglions lymphatiques cervicaux ont été examinés aux ultrasons par un consultant et un radiologue stagiaire. Les ganglions lymphatiques affectés ont ensuite été biopsiés et examinés histologiquement. La sensibilité, la spécificité, la valeur prédictive positive (PPV), la valeur prédictive négative (NPV) et la précision ont été calculées. Les données ont été analysées à l'aide du logiciel Statistical Package for Social Sciences (SPSS) version 19 (SPSS Inc., Chicago, IL, USA) et de Microsoft Excel 2010 (Microsoft, Redmond, WA, USA). Le test de signification statistique a été fixé à 0,05.

RÉSULTATS: L'examen échographique effectué par le radiologue consultant a enregistré une sensibilité de 80,0%, une spécificité de 57,1%, une VPP de 77,5%, une VAN de 60,0%, une précision de 71,7% et une valeur *P* de 0,004. Le radiologue stagiaire a enregistré une sensibilité de 69,2%, une spécificité de 38,1%, une VPP de 67,5%, une VAN de 40,0%, une précision de 58,3% et une valeur *P* de 0,566.

CONCLUSION: l'Echographie est utile pour le diagnostic des ganglions cervicaux métastatiques dans les malignités orofaciales et l'interprétation et la fiabilité des résultats dépendent de l'expérience du radiologue. L'examen des patients doit donc être effectué et interprété par un radiologue expérimenté. *WAJM* 2021; 38(1): 24–27.

Mots-clés: Orofacial, Échographie, Ganglion lymphatique, Métastases, Cervical, Zaria.

Departments of [†]Oral and Maxillofacial Surgery, Ahmadu Bello University Teaching Hospital, Zaria, Kaduna State, Nigeria; [‡]Radiology, Ahmadu Bello University/Ahmadu Bello University Teaching Hospital, Zaria, Kaduna State, Nigeria; [§]Radiology, Abubakar Tafawa Balewa University Teaching Hospital Bauchi, Bauchi State, Nigeria; [¶]Oral and Maxillofacial Surgery, Ahmadu Bello University/Ahmadu Bello University Teaching Hospital, Zaria, Kaduna State, Nigeria; ^{††}Oral and Maxillofacial Surgery, University of Benin/University of Benin Teaching Hospital, Benin-City, Edo State, Nigeria.

*Correspondence: Dr. Okeke Uche Albert, Department of Oral and Maxillofacial Surgery, Ahmadu Bello University Teaching Hospital, P.M.B 06, Shika-Zaria, Kaduna State, Nigeria. Tel: +2348032431277. E-mail: uchino4real@yahoo.com

Abbreviations: NPV, Negative Predictive Value; PPV, Positive Predictive Value; SPSS, Statistical Package for Social Sciences.