

Letter to the Editor

Comments on “MRI and ¹⁸F-FDG-PET/CT findings of cervical reactive lymphadenitis: a comparison with nodal lymphoma”

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Dear Editor,

We are writing with regards to expressing our thoughts on the paper by Kato *et al.* [1] exploring the diagnostic accuracy of magnetic resonance imaging (MRI) and ¹⁸F-fluorodeoxyglucose (FDG)-positron emission tomography/computed tomography (PET/CT) findings of cervical reactive lymphadenitis: a comparison with nodal lymphoma in cervical reactive lymphadenitis versus nodal lymphoma. The precise definitions of T2-hypointense thickened capsules, peripheral hypointense convergences, and nodal hilum preservation of the authors do contribute significantly towards an understanding of imaging phenotypes of benign as compared to malignant lymphadenopathy. Yet certain methodological as well as interpretative subtleties deserve attention and need research in the future.

The retrospective design of this study, combined with a small sample size – particularly in the reactive lymphadenitis subgroup – may limit statistical power and generalizability of the results. In addition, the use of heterogeneous imaging protocols, resulting from the utilization of multiple MRI and PET/CT scanners, may introduce variability that could mask subtle diagnostic distinctions. We encourage prospective, multicenter studies with standardized imaging protocols to confirm these initial observations and improve reproducibility across varied clinical environments [2].

Another area of disagreement stems from the high degree of overlap in maximum standardised uptake values (SUV_{max}) between reactive lymphadenitis and nodal lymphoma. While statistically significant differences were noted, clinical use of SUV_{max} as a single discriminant is

still hampered by such overlap. The incorporation of sophisticated quantitative methods – radiomics and machine learning algorithms – may reveal subtle imaging biomarkers that outperform traditional metrics in diagnostic performance [3]. These approaches can potentially uncover hidden attributes that more accurately reflect the rich tissue heterogeneity characteristic of inflammatory as opposed to neoplastic processes.

In addition, whereas the contribution of diffusion-weighted imaging towards understanding nodal architecture is admirable, Shen *et al.* [4] have shown in their systematic review and meta-analysis on pelvic metastatic lymph nodes in cervical cancer that diffusion-weighted MRI provides robust diagnostic performance with standardized apparent diffusion coefficient (ADC) thresholds. While their own research involved pelvic nodes within the malignant setting, what their observations highlighted is the possible utility in implementing standardized ADC thresholds – perhaps in combination with metabolic data on FDG PET/CT – to further define the diagnostic paradigm for distinguishing benign from malignant lymphadenopathy.

Lastly, we recommend that future studies include longitudinal imaging follow-up to determine the development of these findings with therapeutic interventions. This would not only improve diagnostic accuracy but also provide prognostic information, especially in the age of developing targeted therapies and personalized medicine [5]. A combined imaging biomarker approach incorporating morphological, functional, and metabolic information promises to better characterize cervical lymph node pathology and inform clinical management.

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A Study design · B Data collection · C Statistical analysis · D Data interpretation · E Manuscript preparation · F Literature search · G Funds collection

Finally, although the contribution of Kato *et al.* [1] to the field of imaging is noteworthy, their limitations highlight the necessity for follow-up studies with the use of robust, standardized, and multimodal imaging techniques. Overcoming these challenges will certainly improve our knowledge of lymphadenopathy and patient care by maximizing diagnostic and therapeutic monitoring accuracy.

Disclosures

1. Institutional review board statement: Not applicable.
2. Assistance with the article: During the preparation of this work, the author(s) used Jasper, an AI tool that

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References

1. Kato H, Ando T, Kito Y, Shibata H, Ogawa T, Seko T, et al. MRI and 18F-FDG-PET/CT findings of cervical reactive lymphadenitis: a comparison with nodal lymphoma. *Pol J Radiol* 2025; 90: e9-e18. DOI: 10.5114/pjr/196644.
2. D'souza MM, Jaimini A, Bansal A, Tripathi M, Sharma R, Mondal A, Tripathi RP. FDG-PET/CT in lymphoma. *Indian J Radiol Imaging* 2013; 23: 354-365. DOI: 10.4103/0971-3026.125626.
3. King AD, Ahuja AT, Yeung DK, Fong DK, Lee YY, Lei KI, Tse GM. Malignant cervical lymphadenopathy: diagnostic accuracy of diffusion-weighted MR imaging. *Radiology* 2007; 245: 806-813. DOI: 10.1148/radiol.2451061804.
4. Shen G, Zhou H, Jia Z, Deng H. Diagnostic performance of diffusion-weighted MRI for detection of pelvic metastatic lymph nodes in patients with cervical cancer: a systematic review and meta-analysis. *Br J Radiol* 2015; 88: 20150063. DOI: 10.1259/bjr.20150063.
5. Barrington SF, Kluge R. FDG PET for therapy monitoring in Hodgkin and non-Hodgkin lymphomas. *Eur J Nucl Med Mol Imaging* 2017; 44 (Suppl 1): 97-110. DOI: 10.1007/s00259-017-3690-8.