

Comment on the impact of reconstruction algorithms on Deauville scoring in digital PET/CT

Jiayi Chen MDS

Department of Stomatology, Suzhou Wujiang District Hospital of Traditional Chinese Medicine, Suzhou, PR China

Corresponding author: Jiayi Chen. Suzhou Wujiang District Hospital of Traditional Chinese Medicine, Suzhou, PR China. Dachun Road 999, Wujiang District, Suzhou City, Jiangsu Province, PR China. Tel: +86 13912736738/Fax: 0512-63891340, E-mail: c jy13912736738@163.com

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Dear Editor,

I read with great interest the recent article by Sabuncu et al. (2025) entitled "The effect of digital PET/CT and reconstruction algorithms on semi-quantitative values and Deauville scoring in patients with lymphoma", published in *Hellenic Journal of Nuclear Medicine* [1]. The authors should be commended for addressing an increasingly relevant issue in the era of digital PET/CT imaging—namely, the variability introduced by different reconstruction algorithms on semi-quantitative parameters and Deauville scoring.

The study provides valuable comparative data between OSEM and Q.Clear (BPL-based) reconstruction methods in a digital PET/CT system. The finding that SUVmax and SUVmean values in both reference organs and lymphomatous lesions differ significantly across algorithms, with consequent shifts in Deauville score categorization, is clinically important. Particularly notable is the higher rate of Deauville 4-5 classifications observed with BPL algorithms compared with OSEM, especially in subcentimetric lesions. This has potential implications for interim response assessment and treatment adaptation strategies in lymphoma.

However, I would like to highlight several considerations. First, although the study demonstrates statistically significant differences, the clinical impact of these discrepancies—particularly whether they translate into actual changes in patient management—deserves further clarification. Quantifying how many cases would result in altered therapeutic decisions would strengthen the practical relevance of the findings. Second, the retrospective design and heterogeneous lymphoma subtypes may introduce variability that could be minimized in future prospective, subtype-specific analyses. Finally, harmonization strategies such as EARL accreditation standards or cross-calibration protocols might be discussed in greater depth as potential solutions to inter-algorithm variability.

Overall, this study underscores the urgent need for standardization in digital PET/CT reconstruction protocols, particularly in multicenter trials and longitudinal follow-up. I believe the authors' work contributes meaningfully to ongoing discussions regarding quantitative reliability and response assessment in lymphoma imaging.

Bibliography

1. Sabuncu S, Özüiker F, Buğrahan G et al. The effect of digital PET/CT and reconstruction algorithms on semi-quantitative values and Deauville scoring in patients with lymphoma. *Hell J Nucl Med* 2025; 28(3): 218-26.