



# Performance of dual-energy CT with iodine quantification in differentiating for benign versus malignant lymph nodes in patients with lung adenocarcinoma

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## Dear Editor,

I read with great interest the study by Huang et al. [1] which aimed to ascertain the performance of dual-energy CT (DECT) with iodine quantification in differentiating malignant mediastinal and hilar lymph nodes (LNs) from benign ones, focusing on patients with lung adenocarcinoma. I would like to share some points concerning this study which I believe warrants further consideration and discussion.

First, the authors mentioned that lymph nodes with a short axis < 5 mm were excluded because it was challenging to perform quantitative measurements on such small lymph nodes. I wonder how this could change with the recent introduction of high-resolution imaging modalities such as photon counting CT since a relatively large number of LNs were excluded.

Next, among the 72 patients eligible for DECT analysis of interlobar, lobar, hilar, and mediastinal LNs, there were 23 men (aged 29–76 years; mean  $\pm$  SD: 60.4  $\pm$  11.2 years) and 49 women (aged 43–81 years; mean  $\pm$  SD: 63.5  $\pm$  9.5 years). However, since previous research has shown that the iodine perfusion ratios did not show dependency on body mass index while significant differences between sexes and age groups persisted, it would be useful for future studies to take into consideration allocating similar proportions of men and women [2].

Furthermore, according to this study, the optimal size threshold for differentiating benign LNs from malignant ones was 8.4 mm, for which the sensitivity was 51.6% and specificity was 76.1%. When using the conventional size criteria of  $\geq 10$  mm as the threshold, only 9 out of the 31

metastatic LNs were detected, with the sensitivity being only 29%. The specificity at this threshold was 91% (61 out of 67 benign LNs). Based on these results what is the authors conclusion? Should this be coupled with the iodine concentration normalized by muscle for differentiating between benign and malignant LNs?

While I thank the editors for the opportunity provided to comment on this study, I would very much appreciate a reply from the authors mentioning their stance with regard to the aforementioned points and questions.

## Declarations

**Conflict of interests** The author has no conflicts of interest to declare.

## References

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