The Use of Positron Emission Tomography in Coronavirus Disease 2019 Cases

An excellent visual demonstration was provided by Polverari et al. of a novel coronavirus disease 2019 case on positron emission tomography (PET) combined with computed tomography (CT) using the radiotracer fluorodeoxyglucose. Along the same lines, the largest series published, primarily in English, on this topic is that of Qin et al. They also reported unmistakable changes on the PET and CT components. PET clearly complemented the CT findings in all cases (as described in both articles).

The most common CT findings in those affected with coronavirus disease 2019 have been well described. It seems that in all of the PET–CT cases, these typical appearances were clearly apparent on the CT component (primarily ground-glass opacities, consolidation, or a combination of both) of the study and the PET findings were, realistically, a little superfluous. Although in these instances PET–CT played a role in supporting the diagnosis, it seems that the diagnosis would have been established with CT alone. Using CT alone would also have resulted in a lower radiation exposure. How much did the PET findings really contribute to the diagnosis? Was PET truly necessary? Would a CT scan have established the same outcome at a lower cost, lower radiation exposure, and greater efficiency?

Having said that, how can PET be better used in this setting? Is it more useful potentially for follow-up purposes? In the same way as has been postulated with cardiac lymphoma, PET may be more useful for functionally assessing disease activity after treatment even in the presence of unresolved morphologic changes. Would this be a better use of PET for such patients? After all, as is common knowledge, pulmonary parenchymal changes may persist for quite a long time after resolution of respiratory infective symptoms.

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References