



## Case illustrated

## [18F]FDG-PET/CT in different COVID-19 phases

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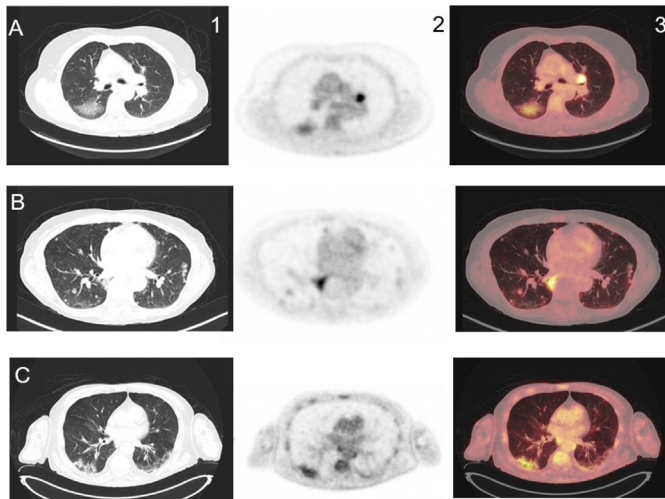
COVID-19

Metabolic features

## ABSTRACT

PET/CT is an hybrid technique which allows both morfological and metabolic evalutaion. Three different morphometeabolical patterns are presented which reflect the evolutive phases of the COVID-19. This findings may help the clinician determine the correct treatment and security measure that need to be taken aaccording to the phase of the disease.

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[<sup>18</sup>F]FDG-PET/CT performed in three patients with lung cancer demonstrate: A. Axial CT(1), PET(2) and fused PET/CT(3) showed an incidental 46-mm ground-glass opacity (with non-uniform density and air bronchogram), in the superior segment of the right lower lobe with mild diffuse metabolic uptake (SUVmax: 3,9) [1], consistent with probable early phase lung infection of the COVID-19 disease [2]. B. Axial CT(1), PET(2) and fused PET/CT(3) demonstrated a paramedial consolidation and thickened interlobular septa in the lower right lobe [1,3] with high focal [<sup>18</sup>F]FDG

avidity (SUVmax:5,3) suggesting severe infectious process. C. Axial CT(1), PET(2) and fused PET/CT(3) identified bibasal opacities with decreased density and fibrotic stripes [3] which associate an heterogeneous high metabolic uptake (SUVmax:5) [2,4], consistent with COVID-19 in resolution.

The finding of three different metabolic uptake patterns, highlights the utility of [<sup>18</sup>F]FDG-PET-CT not only to diagnose incidental cases of COVID-19 disease, so security measures can be adopted, but also to distinguish the evolutive situation of it.

## Author contribution

All authors contributed equally.

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## CRediT authorship contribution statement

**Odile Ajuria-Illarramendi:** Conceptualization, Methodology, Writing - original draft. **Alberto Martinez-Lorca:** Resources, Writing - review & editing, Visualization. **Maria del Prado Orduña-Diez:** Supervision, Project administration.

## Declaration of Competing Interest

The authors declare that they have no conflicts of interest.

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