



Mediastinal lymphadenopathy in patients with severe COVID-19

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CT has a leading place in the management of patients with coronavirus disease 2019 (COVID-19). Mediastinal lymph node enlargement is not considered a typical CT feature of COVID-19, and only 6% of patients admitted to hospital for COVID-19 had lymphadenopathy.¹ This observation is concordant with previous studies in Chinese populations.^{2,3} However, our experience in critically ill patients with COVID-19 in France seems to be different.

15 patients with positive RT-PCR for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) were admitted to our intensive care unit (ICU) for acute respiratory failure on March 27, 2020. Among them, nine patients were under invasive mechanical ventilation and one patient was also under extracorporeal membrane oxygenation, whereas two patients were under high-flow nasal canula oxygenation. CT examination was performed in nine patients, with typical ground-glass opacities, reticulation, or consolidation features observed in all patients, as described in a recent expert consensus statement on chest CT findings related to COVID-19.⁴ The median number of days between onset of symptoms and CT scans was 7 days (IQR 6–8). Lymphadenopathies greater than 10 mm in the short axis were observed in six (66%) of the nine patients. Notably, several patients had voluminous lymphadenopathies, particularly in the subcarinal location, measuring up to 30 mm in the short axis (appendix). Invasive microbiological samples were assessed to rule out bacterial or fungal coinfection in all patients. Similarly, no patient had any haemophagocytic lymphohistiocytosis, neoplasia, or systemic disease.

Thus, lymphadenopathy was more common in our French cohort of ICU

patients than previously reported. To our knowledge, highly enlarged mediastinal lymph nodes have not been described in patients with COVID-19. Most reports were not specifically concerning critically ill patients, so disease severity could probably explain this discrepancy, as suggested by Li and colleagues.⁵ Further studies are needed to better characterise the CT features of patients with COVID-19, in order to establish a possible link between the presence of specific radiological signs and the severity of the disease. Pending such studies, lymphadenopathy should not be considered an atypical feature of COVID-19, especially when we have seen that mediastinal lymph nodes are very large in our critically ill patients.

We declare no competing interests.

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Association of mediastinal lymphadenopathy with COVID-19 prognosis

Xavier Valette and colleagues¹ reported a high (66%) prevalence of mediastinal lymphadenopathy in 15 patients with

COVID-19 admitted to their intensive care unit (ICU), an approximately 11-fold discrepancy with systematic reviews reporting pooled prevalence of 3.4%² and 5.4%.³ This topic deserves further investigation, especially considering that small sample sizes imply large confidence intervals.

We retrospectively reviewed 410 patients with COVID-19 (including 288 male and 122 female patients; median age of all patients 68 years [IQR 57–78]) who underwent CT at emergency department admission in three hospitals in Lombardy, Italy (Fondazione Poliambulanza Istituto Ospedaliero, Brescia; ASST Crema, Ospedale Maggiore, Crema; ASST Santi Paolo e Carlo, Ospedale San Paolo, Milan), from Feb 21 to March 18, 2020, during the pandemic peak in Lombardy. 76 patients had mediastinal lymphadenopathies (ie, lymph nodes with a short-axis diameter >1 cm), giving a prevalence of 19% (95% CI 15–22).

Whereas our CT examinations were done at emergency department admission, Valette and colleagues' data¹ derive from patients in the ICU. Thus, our lower lymphadenopathy prevalence could be explained by the lower severity illness of our patients. However, 60 (15%) patients in our cohort were admitted to the ICU, of whom only 15 (25%, 95% CI 14–36) had lymphadenopathies at emergency department admission (appendix).

Valette and colleagues¹ hypothesised that disease severity could probably explain the discrepancy between previous data and their ICU population. After applying the Bonferroni correction for multiple comparisons to our series of patients (obtaining a p value threshold of 0.003, above which p values were not significant), we found no significant differences between patients with and without lymphadenopathies in terms of sex, age, history of cancer, non-invasive ventilation or ICU admission during hospitalisation, length of hospital stay,

See Online for appendix



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Supplementary webappendix

This webappendix formed part of the original submission. We post it as supplied by the authors.

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Appendix

Figure: Chest computed tomography of a 71 years-old man hospitalized in intensive care unit for acute respiratory failure related to COVID-19 pneumonia. A highly enlarged subcarinal lymph node was observed in A) axial plane B) coronal plane.

