Radio CovILD, 1-year follow-up

Tables and figures

CovILD study team

2022-02-10

# Tables

**Table 1:** Baseline characteristic of the cohort.

| **Variable** | **Statistic, n = 91** |
| --- | --- |
| Age | Mean = 59 (SD: 13) Median = 57 [IQR: 51 - 70] Range: 20 - 89 |
| Age1 | up to 60: 59% (54) >60: 41% (37) |
| BMI1 | normal: 37% (34) overweight: 43% (39) obesity: 20% (18) |
| Packs/year12 | Mean = 6.8 (SD: 14) Median = 0 [IQR: 0 - 7.5] Range: 0 - 80 |
| PKY13 | 0: 66% (60) 1–10: 13% (12) 11-20: 9.9% (9) >21: 11% (10) |
| Smoking1 | never: 66% (60) ex: 34% (31) |
| Severity1 | mild: 21% (19) moderate: 25% (23) severe: 25% (23) critical: 29% (26) |
| 1percentage of the cohort (n individuals) | |
| 2body mass index, kg/m², overweight: > 25 kg/m², obesity: > 30 kg/m² | |
| 3packages per year | |

**Table 2:** Lung CT features in the entire cohort at the consecutive follow-up visits.

| **Variable** | **2-month FUP1** | **3-month FUP1** | **6-month FUP1** | **1-year FUP1** | **Significance2** | **Effect size** |
| --- | --- | --- | --- | --- | --- | --- |
| Any abnormalities | 76% (58) Complete: n = 76 | 63% (54) Complete: n = 86 | 67% (47) Complete: n = 70 | 54% (49) Complete: n = 91 | p = 0.024 | V = 0.17 |
| Moderate-severe abnormalities | 54% (41) Complete: n = 76 | 36% (31) Complete: n = 86 | 27% (19) Complete: n = 70 | 20% (18) Complete: n = 91 | p < 0.001 | V = 0.27 |
| Severe abnormalities | 33% (25) Complete: n = 76 | 16% (14) Complete: n = 86 | 8.6% (6) Complete: n = 70 | 8.8% (8) Complete: n = 91 | p < 0.001 | V = 0.26 |
| GGO | 74% (56) Complete: n = 76 | 58% (50) Complete: n = 86 | 56% (39) Complete: n = 70 | 44% (40) Complete: n = 91 | p = 0.0018 | V = 0.22 |
| Reticulation | 58% (44) Complete: n = 76 | 52% (45) Complete: n = 86 | 56% (39) Complete: n = 70 | 43% (39) Complete: n = 91 | ns (p = 0.21) | V = 0.12 |
| Consolidation3 | 13% (10) Complete: n = 76 | 7% (6) Complete: n = 86 | 1.4% (1) Complete: n = 70 | 1.1% (1) Complete: n = 91 | p = 0.0024 | V = 0.21 |
| Bronchial dilatation | 11% (8) Complete: n = 76 | 7% (6) Complete: n = 86 | 8.6% (6) Complete: n = 70 | 8.8% (8) Complete: n = 91 | ns (p = 0.89) | V = 0.045 |
| Crazy paving | 1.3% (1) Complete: n = 76 | 0% (0) Complete: n = 84 | 0% (0) Complete: n = 70 | 0% (0) Complete: n = 91 | ns (p = 0.36) | V = 0.1 |
| OP | 7.9% (6) Complete: n = 76 | 7.1% (6) Complete: n = 84 | 2.9% (2) Complete: n = 70 | 0% (0) Complete: n = 91 | p = 0.039 | V = 0.16 |
| Parenchymal bands | NaN% (0) Complete: n = 0 | 32% (27) Complete: n = 84 | 23% (16) Complete: n = 70 | 5.5% (5) Complete: n = 91 |  |  |
| Microcystic changes4 | NaN% (0) Complete: n = 0 | NaN% (0) Complete: n = 0 | NaN% (0) Complete: n = 0 | 2.2% (2) Complete: n = 91 |  |  |
| Parenchymal destruction5 | NaN% (0) Complete: n = 0 | NaN% (0) Complete: n = 0 | NaN% (0) Complete: n = 0 | 9.9% (9) Complete: n = 91 |  |  |
| 1percentage of the complete cases at the time point (n individuals), FUP: follow-up | | | | | | |
| 2χ² test for differences between the follow-ups, ns: not significant | | | | | | |
| 3ground glass opacity | | | | | | |
| 4acute respiratory distress syndrome | | | | | | |
| 5organizing pneumonia | | | | | | |

# Figures

![Figure 1: Study Flow chart.](data:application/pdf;base64,)

Figure 1: Study Flow chart.

**Figure 1. Study Flow chart (placeholder).**

![Figure 2: Non-contrast axial and sagittal chest CTs corresponding to the CT severity score.](data:application/pdf;base64,)

Figure 2: Non-contrast axial and sagittal chest CTs corresponding to the CT severity score.

**Figure 2. Non-contrast axial and sagittal chest CTs corresponding to the CT severity score (placeholder).**

![Figure 3: Risk of developing persistent CT abnormalities at the one-year post-COVID-19 follow-up visit.](data:application/pdf;base64,)

Figure 3: Risk of developing persistent CT abnormalities at the one-year post-COVID-19 follow-up visit.

**Figure 3. Risk of developing persistent CT abnormalities at the one-year post-COVID-19 follow-up visit.**

**(A)** Univariable analysis. Risk factors of developing any lung CT abnormalities at the 1-year follow-up visit were identified by logistic regression. Odds ratio (OR) significance was determined by Wald Z test. OR and with 95 confidence intervals (CI) are presented in a Forest plot. Numbers of complete observations and the reference levels of the explanatory variables are indicated in the Y axis.

**(B)** Multivariable analysis. Independent risk factors of lung CT abnormalities were identified by multi-parameter logistic regression with backward elimination. OR significance was determined by Wald Z test. Model prediction was verified by 20-fold cross-validation (CV) and receiver-operating characteristic (ROC). OR with 95 CI are presented in a Forest plot. Numbers of complete observations and the reference levels of the explanatory variables are indicated in the Y axis. Orange: positive correlation, blue: negative correlation, gray: not significant or reference. BMI: body mass index, ref.: reference.

![Figure 4: Serial non-contrast axial chest CTs of three study participants with prior COVID-19 pneumonia.](data:application/pdf;base64,)

Figure 4: Serial non-contrast axial chest CTs of three study participants with prior COVID-19 pneumonia.

**Figure 4. Serial non-contrast axial chest CTs of three study participants with prior COVID-19 pneumonia (placeholder).**

![Figure 5: Change in CT severity score (CTSS) over time.](data:application/pdf;base64,)

Figure 5: Change in CT severity score (CTSS) over time.

**Figure 5. Change in CT severity score (CTSS) over time.**

CTSS kinetic at the consecutive time points was investigated by Friedman test (grouping by the individual) in the entire cohort and the acute COVID-19 severity subsets. The effect size was determined by Kendall W test, differences between particular time points were compared by paired Wilcoxon test. Plots display individual CTSS value trajectories as thin gray lines, thick colored lines represent medians, interquartile ranges are presented as colored regions. p values of the Friedman test and the Kendall W statistic are presented in the plot captions. Numbers of individuals with the complete set of consecutive CT scans are shown under the plots.