**Prevalence and prognosis impact of patient-ventilator asynchrony in early phase of weaning according to two detection methods**

Camille Rolland-Debord, Come Bureau, Tymothee Poitou, Lisa Belin, Marc Clavel, Sébastien Perbet, Nicolas Terzi, Achille Kouatchet, Thomas Similowski,Alexandre Demoule

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**Table SDC 1.** **Impact on major outcome variables on severe asynchrony using the flow-and-pressure method**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **AI < 10%**  **(n=96)** | **AI ≥ 10%**  **(n=7)** | **p** | **95%CI** |
| **Duration of invasive MV, days** | 12 (8-20) | 8 (7-18) | 0.39 | 4 (-6.14-14.14) |
| **Duration of MV\*, days** | 15 (10-23) | 8 (8-22) | 0.28 | 7 (-2.97-16.97) |
| **Days of invasive MV from randomization** | 5 (3-10) | 3 (3-14) | 0.47 | 2 (-3.46 – 7.46) |
| **Days of MV from randomization\*** | 9 (5-14) | 5 (3-15) | 0.25 | 4 (-2.24-10.24) |
| **Invasive ventilator-free days, day 7** | 2 (0-4) | 4 (0-4) | 0.36 | -2 (-4.53-0.53) |
| **Ventilator-free days\*, day 7** | 0 (0-3) | 2 (1-5) | 0.09 | -2 (-4.09-0.09) |
| **Invasive ventilator-free days, day 14** | 9 (2-11) | 11 (0-11) | 0.51 | -2 (-7.07- 3.07) |
| **Ventilator-free days\*, day 14** | 5 (0-10) | 9 (1-12) | 0.24 | -4 (-9.26-1.26) |
| **Invasive ventilator-free days, day 28** | 22 (3-25) | 25 (14-25) | 0.24 | -3 (-8.64-2.64) |
| **Ventilator-free days\*, day 28** | 19 (4-23) | 23 (13-25) | 0.11 | -4 (-10.58-2.58) |
| **Days of ICU stay** | 19 (14-29) | 10 (9-15) | 0.02 | 9 (3.78-14.22) |
| **Days of hospital stay** | 32 (22-38) | 25 (19-27) | 0.29 | 7 (-4.44-18.44) |
| **Death before ICU discharge, *n (%)*** | 17 (17.7) | 0 (0) | 0.59 | NA |
| **Death in the first 28 days, *n (%)*** | 18 (18.7) | 1 (14.3) | 0.99 | NA |
| **Use of post-extubation NIV, *n (%)*** | 51 (53) | 4 (57) | 0.88 | NA |
| **Days of post-extubation NIV** | 1 (0-3) | 1 (0-3) | 0.74 | 0 (-1.88-1.88) |
| **Proportion of patients with successful partial ventilator supporta, n (%)** | 61 (64) | 3 (43) | 0.42 | NA |

MV, mechanical ventilation; ICU, intensive care unit. Continuous data are reported as median (interquartile range [IQR]) and categorical data as number of event (percentages). 95% CI, Difference between median (Confidence interval for difference of medians 95%).\* Including non-invasive ventilation. a, Proportion of patients with successful partial ventilator support who were therefore not switched at least once to assist-control ventilation during the first 48 h following inclusion.

**Table SDC 2.** **Specific association between ineffective triggering and the outcome using the EAdi-based method**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Absence of ineffective triggering (n=55)** | **Presence of ineffective triggering**  **(n=48)** | **p** |
| **Duration of invasive MV, days** | 12 (8-21) | 11 (7-20) | 0.49 |
| **Duration of MV\*, days** | 13 (8-24) | 15 (10-22) | 0.95 |
| **Days of invasive MV from randomization** | 6 (3-11) | 4 (3-9) | 0.29 |
| **Days of MV from randomization\*** | 9 (4-15) | 8 (4-13) | 0.84 |
| **Days of ICU stay** | 18 (12-30) | 18 (13-26) | 0.96 |

Absence of ineffective triggering is defined as no ineffective triggering during the four recording sequences. Presence of ineffective triggering is defined by at least one ineffective triggering during the four recording sequences.

MV, mechanical ventilation; ICU, intensive care unit.

Continuous data are reported as median (interquartile range [IQR]) and categorical data as number of event (percentages).

\* Including days of non-invasive ventilation

**Table SDC 3.** **Specific association between ineffective triggering and the outcome using the Flow-and-Pressure method**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Absence of ineffective triggering**  **(n=42)** | **Presence of ineffective triggering**  **(n=61)** | **p** |
| **Duration of invasive MV, days** | 11 (8-19) | 11 (8-21) | 0.75 |
| **Duration of MV\*, days** | 17 (11-21) | 13 (8-24) | 0.71 |
| **Days of invasive MV from randomization** | 7 (3-11) | 4 (3-9) | 0.42 |
| **Days of MV from randomization\*** | 10 (4-14) | 7 (4-13) | 0.53 |
| **Days of ICU stay** | 21 (13-29) | 18 (13-27) | 0.78 |

Absence of ineffective triggering is defined as no ineffective triggering during the four recording sequences. Presence of ineffective triggering is defined by at least one ineffective triggering during the four recording sequences.

MV, mechanical ventilation; ICU, intensive care unit.

Continuous data are reported as median (interquartile range [IQR]) and categorical data as number of event (percentages).

\* Including days of non-invasive ventilation

**Table SDC 4. Assessment of the agreement between the two methods to identify severe asynchrony defined as an asynchrony index (AI) ≥ 10%.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | **AI**  **Flow-and-pressure method** | | **Total** |
| **< 10%** | **≥10%** |
| **AI**  **EAdi-based method** | **< 10%** | 16 | 1 | 17 |
| **≥10%** | 80 | 6 | 86 |
| **Total** | | 96 | 7 | 103 |

**Table SDC 5.** **Prevalence of patient-ventilator asynchrony during each of the four 20 minutes recording periods using the EAdi-based method**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **H12** | **H24** | **H36** | **H48** | **p** |
| **All asynchrony, *min-1*** | 4.65 (2.80 - 8.90) | 3.95 (1.98 - 6.91) | 4.25 (2.68 - 8.25) | 5.00 (2.30 - 9.44) | 0.33 |

Data are reported as median (interquartile range [IQR]).

The four conditions were compared with a Friedman test followed by a pairwise comparison using Dunn’s *post hoc* test.