

CORRECTION

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# Correction to: Can levosimendan reduce ECMO weaning failure in cardiogenic shock?: a cohort study with propensity score analysis

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Following publication of the original article [1], the authors reported errors in Table 1 and Table 2.

The revised Table 1 and Table 2 are indicated hereafter.

The original article [1] has been updated.

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**Table 1** Patients demographic and clinical characteristics

|                                           | All (n = 200) | Levosimendan (n = 53) | Control (n = 147) | p value |
|-------------------------------------------|---------------|-----------------------|-------------------|---------|
| Clinical characteristics at ICU admission |               |                       |                   |         |
| Age (years)                               | 53 ± 13.5     | 53.9 ± 14.3           | 52.6 ± 13.3       | 0.575   |
| Male                                      | 129 (64.5)    | 33 (62.3)             | 96 (65.3)         | 0.692   |
| BMI (kg/m <sup>2</sup> )                  | 25.3 ± 5.4    | 25.3 ± 5.6            | 25.3 ± 5.3        | 0.975   |
| SAPS-II                                   | 52.2 ± 14.3   | 53.5 ± 10.8           | 51.7 ± 15.4       | 0.349   |
| SOFA                                      | 11.7 ± 2.1    | 11.5 ± 1.5            | 11.8 ± 2.2        | 0.459   |
| Comorbidities                             |               |                       |                   |         |
| Hypertension                              | 62 (31)       | 18 (34)               | 44 (29.9)         | 0.587   |
| Diabetes                                  | 36 (18)       | 11 (20.8)             | 25 (17)           | 0.430   |
| History of congestive heart failure       | 101 (51)      | 26 (50)               | 75 (51.4)         | 0.865   |
| Coronary artery disease                   | 88 (44)       | 27 (50.9)             | 61 (41.5)         | 0.235   |
| Peripheral artery disease                 | 11 (5.5)      | 4 (7.5)               | 7 (4.8)           | 0.446   |
| History of stroke                         | 14 (7)        | 5 (9.4)               | 9 (6.1)           | 0.418   |
| Smoking                                   | 71 (35.5)     | 18 (34)               | 53 (36.1)         | 0.785   |
| Dyslipidemia                              | 49 (24.5)     | 14 (26.4)             | 35 (23.8)         | 0.705   |
| Renal failure with dialysis               | 15 (7.5)      | 3 (5.6)               | 12 (8.1)          | 0.553   |
| Indication for VA-ECMO                    |               |                       |                   |         |
| Post-cardiotomy                           | 59 (29.5)     | 18 (34)               | 41 (27.9)         |         |
| Acute myocardial infarction               | 45 (22.5)     | 17 (32.1)             | 28 (19)           |         |
| Graft dysfunction                         | 33 (16.5)     | 3 (5.7)               | 30 (20.4)         |         |
| Dilated cardiomyopathy                    | 15 (7.5)      | 5 (9.4)               | 10 (6.8)          |         |
| Intoxication                              | 14 (7)        | 0 (0)                 | 14 (9)            |         |
| Fulminant myocarditis                     | 13 (6.5)      | 3 (5.7)               | 10 (6.8)          |         |
| Pulmonary embolism                        | 6 (3)         | 2 (3.8)               | 4 (2.7)           |         |
| Septic cardiomyopathy                     | 6 (3)         | 2 (3.8)               | 4 (2.7)           |         |
| Others                                    | 9 (4.5)       | 3 (5.6)               | 6 (4)             |         |
| Potential for myocardial recovery         |               |                       |                   |         |
| High                                      | 39 (19.5)     | 7 (13.2)              | 32 (21.8)         |         |
| Intermediate                              | 86 (43)       | 22 (41.5)             | 64 (43.5)         |         |
| Low                                       | 75 (37.5)     | 24 (45.3)             | 51 (34.7)         |         |
| Hemodynamic parameters at admission       |               |                       |                   |         |
| LVEF (%)                                  | 19.6 ± 11.3   | 18 ± 11.1             | 20.2 ± 11.4       | 0.241   |
| TAPSE < 12 (mm)                           | 45 (30.8)     | 15 (34.8)             | 30 (29.1)         | 0.489   |
| MAP (mmHg)                                | 69 ± 11       | 70 ± 11               | 69 ± 11           | 0.643   |
| HR (beats/min)                            | 103 ± 24      | 108 ± 21              | 102 ± 25          | 0.145   |
| CVP (mmHg)                                | 10.6 ± 5      | 10.8 ± 5.5            | 10.6 ± 4.9        | 0.798   |
| ScvO <sub>2</sub> (%)                     | 62 ± 11       | 60 ± 12               | 63 ± 11           | 0.065   |
| VA-ECMO characteristics                   |               |                       |                   |         |
| VA-ECMO duration (days)                   | 7.6 ± 5       | 10.6 ± 4.8            | 6.5 ± 4.7         | < 0.001 |
| Flow rate (L/min)                         | 3.5 ± 0.8     | 3.4 ± 0.8             | 3.5 ± 0.8         | 0.835   |
| Rotation (round/min)                      | 4360 ± 1711   | 4480 ± 1724           | 4312 ± 1710       | 0.547   |
| FiO <sub>2</sub> (%)                      | 59 ± 12       | 58 ± 12               | 59 ± 13           | 0.977   |
| Peripheral VA-ECMO cannulation            | 175 (87.5)    | 48 (90.6)             | 127 (86.4)        | 0.496   |
| IABP associated to VA-ECMO                | 54 (27)       | 16 (30.1)             | 38 (25.8)         | 0.542   |

**Table 1** Patients demographic and clinical characteristics (Continued)

|                                     | All (n = 200) | Levosimendan (n = 53) | Control (n = 147) | p value |
|-------------------------------------|---------------|-----------------------|-------------------|---------|
| Biological parameters               |               |                       |                   |         |
| Hemoglobin level (g/dL)             | 113 ± 25      | 114 ± 26              | 113 ± 24          | 0.717   |
| International normalized ratio      | 1.6 ± 0.6     | 1.5 ± 0.5             | 1.6 ± 0.6         | 0.338   |
| Arterial blood pH                   | 7.26 ± 0.1    | 7.27 ± 0.1            | 7.26 ± 0.1        | 0.652   |
| Lactate level (mmol/L)              | 7.2 ± 5.1     | 6.4 ± 4.7             | 7.5 ± 5.3         | 0.178   |
| Creatinine level (μmol/L)           | 152 ± 78      | 150 ± 77              | 153 ± 79          | 0.843   |
| Total bilirubin level (μmol/L)      | 23 ± 17       | 22 ± 17               | 24 ± 17           | 0.457   |
| ASAT (U/L)                          | 763 ± 1819    | 717 ± 1454            | 781 ± 1945        | 0.828   |
| ALAT (U/L)                          | 390 ± 907     | 295 ± 610             | 426 ± 998         | 0.372   |
| Catecholamines during ICU stay      |               |                       |                   |         |
| Norepinephrine max dose (μg/kg/min) | 1.49 ± 1.05   | 1.56 ± 1.07           | 1.47 ± 1.04       | 0.586   |
| Norepinephrine duration (days)      | 10.9 ± 8.7    | 12.8 ± 7.2            | 10.2 ± 9.2        | 0.068   |
| Dobutamine max dose (μg/kg/min)     | 9.7 ± 4.6     | 10.4 ± 10.2           | 9.5 ± 4.3         | 0.309   |
| Dobutamine duration (days)          | 9.1 ± 7.9     | 10.3 ± 10.2           | 8.6 ± 6.6         | 0.203   |

ICU intensive care unit, BMI body mass index, SAPS-II simplified acute physiology score, SOFA sequential organ failure assessment, LVEF left ventricular ejection fraction, TAPSE tricuspid annular plane systolic excursion, MAP mean arterial pressure, HR heart rate, CVP central venous pressure, ScvO<sub>2</sub> central venous oxygen saturation, FIO<sub>2</sub> fractional inspired oxygen, IABP intra-aortic balloon pump, ASAT aspartate aminotransferase, ALAT alanine aminotransferase

**Table 2** Balance of covariates before and after matching

| Variable (mean)              | Unmatched*            |                   |         | Matched               |                  |              |
|------------------------------|-----------------------|-------------------|---------|-----------------------|------------------|--------------|
|                              | Levosimendan (n = 48) | Control (n = 128) | p       | Levosimendan (n = 48) | Control (n = 78) | p            |
| Age (years)                  | 53.9                  | 52.6              | 0.575   | 54.3                  | 54.7             | 0.866        |
| Male (%)                     | 62                    | 65                | 0.692   | 0.62                  | 0.65             | 0.785        |
| Potential for recovery       | 2.32                  | 2.12              | 0.104   | 2.31                  | 2.35             | 0.747        |
| SAPS-II                      | 53.5                  | 51.7              | 0.424   | 52.7                  | 52.1             | 0.824        |
| SOFA                         | 11.5                  | 11.8              | 0.530   | 11.3                  | 11.5             | 0.687        |
| LVEF (%)                     | 18                    | 20.2              | 0.241   | 18                    | 17               | 0.690        |
| VA-ECMO duration (days)      | 10.6                  | 6.5               | < 0.001 | 10.8                  | 10.2             | <b>0.478</b> |
| Serum lactate level (mmol/L) | 6.4                   | 7.5               | 0.178   | 6.3                   | 6.1              | 0.816        |

Myocardial recovery potential: High 1 intermediate 2, Low 3 SAPS-II simplified acute physiology score, SOFA sequential organ failure assessment, LVEF left ventricular ejection fraction. Data are expressed as mean. The p value refers to a comparison between the levosimendan group and the control group. \*Compared to the entire cohort (n = 200), the unmatched population had 176 patients since there were 24 patients with missing data on some of the variables used in the analysis