**Supplemental Table 1. Mean±SD values of the continuously monitored parameters during the first 48 hours after CICU admission in 29 patients with aorta abnormality**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Time**, hours | **0** | **3** | **6** | **9** | **12** | **15** | **18** | **21** | **24** | **27** | **30** | **33** | **36** | **39** | **42** | **45** | **48** | **Pgroup** | **Ptime** |
| Diastolic blood pressure  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 53.2±8.4 | 50.6±6.5 | 52.6±6.4 | 51.4±6.9 | 51.6±7.9 | 52.1±7.5 | 52.4±7.2 | 50.6±6.8 | 53.2±5.3 | 53.8±8.4 | 53.5±6.7 | 50.8±7.7 | 50.3±5.5 | 48.9±6.7 | 48.6±8.3 | 47.9±7.2 | 50.0±8.2 | 0.57 | <.0001 |
| Subgroup without waves | 52.4±7.0 | 50.9±6.7 | 57.1±8.0 | 55.1±6.1 | 55.6±8.9 | 51.1±6.4 | 51.6±7.0 | 52.7±5.5 | 52.1±6.7 | 52.5±9.4 | 51.4±8.9 | 52.7±10.0 | 49.9±10.4 | 49.9±10.6 | 50.6±8.2 | 49.6±10.8 | 53.5±12.3 |  |  |
| Systolic blood pressure  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 84.0±18.1 | 79.2±14.6 | 82.7±14.6 | 83.7±18.6 | 85.0±17.8 | 87.3±18.9 | 87.5±16.3 | 85.4±17.9 | 87.0±10.3 | 89.3±18.3 | 88.8±15.5 | 84.5±17.1 | 83.2±11.8 | 83.4±14.2 | 82.1±12.4 | 82.6±11.2 | 86.2±13.0 | 0.01 | <.0001 |
| Subgroup without waves | 94.1±15.3 | 89.2±13.5 | 99.3±11.5 | 97.9±11.2 | 96.0±13.8 | 89.3±10.9 | 92.9±15.9 | 95.0±15.8 | 93.3±14.0 | 94.5±13.8 | 92.6±14.6 | 94.9±17.6 | 90.3±16.9 | 91.0±19.4 | 93.6±15.8 | 90.3±17.7 | 98.9±21.5 |  |  |
| Mean blood pressure |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 63.5±11.8 | 60.1±8.8 | 63.6±8.0 | 62.6±10.6 | 63.2±10.7 | 63.9±10.8 | 64.0±9.7 | 62.3±10.0 | 64.5±6.2 | 65.6±11.5 | 65.4±9.3 | 62.0±10.5 | 61.1±7.2 | 60.4±8.4 | 59.8±9.4 | 59.5±7.5 | 62.0±9.3 | 0.09 | <.0001 |
| Subgroup without waves | 66.3±9.1 | 63.7±8.4 | 71.2±8.5 | 69.4±7.3 | 69.0±9.9 | 63.8±7.3 | 65.4±9.7 | 67.0±8.5 | 65.8±8.7 | 66.6±10.3 | 65.2±10.2 | 66.8±12.1 | 63.4±11.9 | 63.6±13.3 | 65.0±10.3 | 63.1±12.9 | 68.6±15.0 |  |  |
| Heart rate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 156±18 | 155±25 | 155±25 | 154±23 | 155±27 | 162±26 | 156±25 | 157±19 | 160±23 | 159±23 | 157±25 | 154±25 | 154±20 | 152±29 | 152±26 | 151±27 | 151±26 | 0.88 | <.0001 |
| Subgroup without waves | 156±27 | 155±23 | 161±26 | 154±19 | 154±23 | 150±18 | 149±15 | 150±19 | 151±23 | 155±29 | 154±19 | 149±19 | 147±24 | 150±24 | 151±19 | 154±19 | 164±18 |  |  |
| dP/dTmax |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 0.73±0.25 | 0.69±0.21 | 0.80±0.15 | 0.88±0.32 | 0.85±0.28 | 0.93±0.35 | 0.92±0.31 | 0.96±0.33 | 0.90±0.35 | 0.92±0.28 | 0.94±0.29 | 0.90±0.32 | 0.87±0.25 | 0.86±0.35 | 0.82±0.23 | 0.92±0.29 | 0.88±0.31 | 0.01 | <.0001 |
| Subgroup without waves | 0.97±0.24 | 1.02±0.30 | 1.06±0.29 | 1.09±0.28 | 1.08±0.30 | 0.97±0.27 | 1.06±0.31 | 1.03±0.31 | 0.96±0.23 | 1.04±0.29 | 1.03±0.27 | 1.05±0.26 | 0.96±0.24 | 1.01±0.32 | 1.09±0.26 | 1.08±0.19 | 1.18±0.33 |  |  |
| Cardiac cycle efficiency |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | -1.16±0.86 | -1.06±0.64 | -0.96±0.45 | -0.94±0.54 | -1.06±0.68 | -0.93±0.66 | -0.97±0.70 | -0.95±0.69 | -0.90±0.61 | -1.04±0.57 | -1.01±0.69 | -1.01±0.61 | -0.98±0.59 | -0.89±0.63 | -0.93±0.49 | -0.77±0.52 | -0.76±0.71 | 0.004 | <.0001 |
| Subgroup without waves | -0.59±0.23 | -0.58±0.30 | -0.58±0.32 | -0.52±0.27 | -0.57±0.36 | -0.61±0.29 | -0.60±0.37 | -0.64±0.38 | -0.70±0.32 | -0.59±0.37 | -0.64±0.28 | -0.68±0.29 | -0.58±0.34 | -0.56±0.25 | -0.55±0.23 | -0.56±0.26 | -0.52±0.27 |  |  |
| Serum lactate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 2.87±1.21 | 2.74±1.33 | 2.68±1.32 | 2.05±1.77 | 2.13±1.70 | 2.15±1.77 | 1.54±1.09 | 2.58±2.18 | 1.58±0.96 | 1.08±0.41 | 1.38±0.60 | NA | 0.88±0.28 | 2.00±1.56 | 0.93±0.44 | 1.48±1.34 | 1.40±0.74 | 0.003 | <.0001 |
| Subgroup without waves | 1.74±0.88 | 1.22±0.48 | 2.14±1.25 | 1.15±0.37 | 1.16±0.44 | 1.45±0.49 | 0.93±0.17 | 0.87±0.26 | 0.94±0.38 | 1.02±0.35 | 0.83±0.17 | 0.84±0.43 | 0.84±0.39 | 0.60±0.16 | 0.83±0.29 | 0.70±0.18 | 0.67±0.21 |  |  |
| Left ScO2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 50.9±12.1 | 45.6±10.4 | 43.8±10.6 | 47.0±16.8 | 50.8±16.5 | 53.7±15.0 | 60.4±14.1 | 65.8±13.6 | 63.2±11.6 | 67.8±12.7 | 69.8±14.3 | 72.3±10.4 | 72.3±10.3 | 70.7±14.2 | 68.9±10.8 | 76.3±10.4 | 73.5±6.5 | 0.41 | <.0001 |
| Subgroup without waves | 55.0±11.1 | 51.9±9.1 | 52.0±11.7 | 52.4±15.0 | 56.1±11.1 | 58.3±10.6 | 60.3±11.1 | 60.7±8.7 | 64.5±8.7 | 65.1±8.7 | 68.5±10.5 | 69.5±8.6 | 69.9±8.9 | 71.7±7.0 | 67.9±10.5 | 67.9±9.2 | 69.3±10.2 |  |  |
| Right ScO2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 50.7±10.1 | 45.2±11.4 | 47.2±13.5 | 50.5±15.6 | 52.0±16.9 | 58.4±6.1 | 61.2±7.9 | 63.7±7.4 | 64.3±7.0 | 65.1±8.1 | 65.3±8.4 | 72.0±9.7 | 71.4±10.2 | 68.9±12.4 | 68.8±8.5 | 76.4±8.3 | 73.6±12.6 | 0.52 | <.0001 |
| Subgroup without waves | 51.9±7.6 | 48.3±8.3 | 49.2±12.4 | 51.2±12.6 | 52.3±11.1 | 55.8±10.0 | 58.7±11.3 | 62.1±8.9 | 63.3±9.0 | 65.7±7.2 | 68.1±9.2 | 69.1±6.7 | 71.8±5.6 | 72.4±6.6 | 68.9±8.3 | 70.5±8.4 | 68.1±8.3 |  |  |
| EEG background |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 1.0±0.9 | 0.9±0.9 | 0.8±1.0 | 0.8±1.0 | 0.7±1.0 | 0.6±0.8 | 0.8±1.0 | 0.6±1.1 | 0.5±0.8 | 0.4±0.7 | 0.5±0.7 | 0.5±0.7 | 0.3±0.5 | 0.4±0.7 | 0.3±0.5 | 0.3±0.5 | 0.4±0.6 | 0.08 | <.0001 |
| Subgroup without waves | 0.5±0.5 | 0.5±0.5 | 0.4±0.5 | 0.4±0.5 | 0.3±0.5 | 0.2±0.4 | 0.3±0.5 | 0.1±0.4 | 0.1±0.4 | 0.1±0.4 | 0.1±0.3 | 0.2±0.4 | 0.2±0.4 | 0.1±0.3 | 0.1±0.3 | 0 | 0 |  |  |
| EEG sharp waves |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 234±257 | 281±266 | 329±313 | 206±168 | 192±196 | 132±107 | 136±113 | 127±164 | 101±67 | 109±116 | 140±109 | 93±64 | 79±70 | 95±89 | 108±101 | 62±64 | 49±18 | 0.003 | <.0001 |
| Subgroup without waves | 36±58 | 51±73 | 102±262 | 75±114 | 59±63 | 55±61 | 103±122 | 72±111 | 69±142 | 59±53 | 83±139 | 80±130 | 47±59 | 25±24 | 39±44 | 16±10 | 27±17 |  |  |
| SrO2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 73.3±15.1 | 77.9±11.0 | 78.8±9.4 | 75.2±12.2 | 74.4±12.0 | 75.9±13.2 | 75.4±12.7 | 79.1±12.4 | 79.1±9.7 | 77.4±10.8 | 78.1±18.8 | 76.6±17.8 | 80.4±7.6 | 75.9±11.5 | 70.7±13.9 | 75.5±10.2 | 74.3±13.7 | 0.24 | <.0001 |
| Subgroup without waves | 76.8±13.3 | 78.2±10.8 | 74.1±15.6 | 70.7±14.1 | 73.3±14.2 | 72.3±11.2 | 74.2±12.7 | 72.1±13.2 | 71.6±14.6 | 73.6±13.1 | 74.0±13.6 | 74.6±11.5 | 72.6±12.6 | 73.3±10.6 | 73.8±11.2 | 73.1±10.1 | 66.6±10.6 |  |  |

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**Supplemental Table 2. Mean±SD values of the monitored variables during the first 48 hours after CICU admission in 38 patients with ventricular septal defect**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Time**, hours | **0** | **3** | **6** | **9** | **12** | **15** | **18** | **21** | **24** | **27** | **30** | **33** | **36** | **39** | **42** | **45** | **48** | **Pgroup** | **Ptime** |
| Diastolic blood pressure |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 51.2±7.4 | 48.3±4.7 | 50.6±7.9 | 53.6±7.8 | 53.0±7.2 | 51.9±9.3 | 50.3±8.3 | 50.6±11.7 | 48.6±10.5 | 48.2±8.9 | 45.5±4.8 | 43.8±5.8 | 42.5±7.2 | 43.9±9.0 | 42.3±4.6 | 41.7±3.6 | 35.3±4.6 | 0.004 | <.0001 |
| Subgroup without waves | 55.5±11.5 | 53.3±6.9 | 55.0±7.4 | 55.7±7.0 | 51.6±8.3 | 50.3±7.6 | 48.6±4.5 | 48.1±5.1 | 50.8±8.1 | 51.5±5.6 | 50.4±5.6 | 49.5±5.4 | 48.8±6.8 | 45.9±5.4 | 48.9±5.3 | 47.0±4.0 | 47.1±3.6 |  |  |
| Systolic blood pressure  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 87.1±13.4 | 84.2±14.1 | 88.8±15.5 | 91.4±12.5 | 91.7±12.8 | 91.0±14.2 | 89.3±12.8 | 90.1±14.9 | 87.8±14.3 | 92.9±10.4 | 89.1±9.4 | 84.4±7.8 | 86.3±11.8 | 87.1±13.6 | 83.5±9.6 | 82.5±11.0 | 76.7±11.7 | 0.39 | <.0001 |
| Subgroup without waves | 94.0±20.4 | 88.6±12.3 | 92.4±15.1 | 92.8±12.0 | 89.2±14.8 | 86.3±13.5 | 85.3±9.7 | 86.4±10.0 | 89.4±13.1 | 89.2±11.8 | 86.5±10.8 | 85.9±9.4 | 87.0±12.0 | 82.3±9.6 | 87.2±11.6 | 82.5±9.6 | 83.8±8.2 |  |  |
| Mean blood pressure |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 63.3±9.0 | 60.3±7.4 | 63.4±10.1 | 66.1±9.3 | 65.9±8.8 | 64.8±10.7 | 63.5±9.4 | 63.9±12.5 | 61.5±11.3 | 63.0±9.2 | 60.1±5.1 | 57.4±5.8 | 57.2±8.1 | 58.3±9.9 | 56.1±5.6 | 55.3±5.6 | 49.0±7.0 | 0.02 | <.0001 |
| Subgroup without waves | 68.4±14.2 | 65.0±8.3 | 67.6±9.5 | 68.1±7.5 | 64.1±10.0 | 62.2±9.1 | 60.9±5.7 | 60.8±6.1 | 63.7±9.3 | 64.1±7.1 | 62.4±6.8 | 61.6±6.4 | 61.6±8.2 | 58.1±6.4 | 61.3±6.9 | 58.4±4.7 | 58.9±4.0 |  |  |
| Heart rate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 148±11 | 147±13 | 147±20 | 143±17 | 144±16 | 142±17 | 132±14 | 138±13 | 135±18 | 129±14 | 132±24 | 130±20 | 124±25 | 133±27 | 129±17 | 132±20 | 143±20 | 0.42 | <.0001 |
| Subgroup without waves | 147±18 | 147±20 | 143±17 | 144±25 | 139±25 | 140±20 | 136±22 | 137±21 | 142±20 | 145±23 | 146±24 | 151±24 | 142±25 | 147±19 | 148±21 | 156±24 | 153±27 |  |  |
| dP/dTmax |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 0.86±0.22 | 0.97±0.38 | 1.09±0.40 | 1.07±0.16 | 1.12±0.25 | 1.03±0.28 | 0.95±0.32 | 1.14±0.24 | 1.03±0.29 | 1.15±0.33 | 1.12±0.34 | 0.89±0.31 | 1.10±0.40 | 1.12±0.37 | 1.05±0.24 | 0.99±0.30 | 1.21±0.31 | 0.60 | <.0001 |
| Subgroup without waves | 1.02±0.33 | 1.03±0.22 | 1.09±0.26 | 1.13±0.28 | 1.05±0.30 | 0.96±0.23 | 0.95±0.21 | 1.00±0.22 | 1.07±0.23 | 1.03±0.24 | 1.06±0.25 | 1.08±0.24 | 1.00±0.17 | 1.07±0.25 | 1.07±0.17 | 1.05±0.22 | 1.08±0.17 |  |  |
| Cardiac cycle efficiency |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | -0.47±0.31 | -0.29±0.23 | -0.22±0.26 | -0.23±0.24 | -0.19±0.21 | -0.29±0.24 | -0.31±0.19 | -0.14±0.40 | -0.24±0.24 | -0.35±0.29 | -0.36±0.20 | -0.22±0.40 | -0.14±0.28 | -0.25±0.34 | -0.28±0.27 | -0.21±0.24 | 0.05±0.19 | 0.15 | <.0001 |
| Subgroup without waves | -0.38±0.36 | -0.37±0.34 | -0.37±0.35 | -0.41±0.39 | -0.33±0.34 | -0.36±0.30 | -0.22±0.29 | -0.28±0.38 | -0.39±0.42 | -0.39±0.37 | -0.28±0.37 | -0.37±0.41 | -0.22±0.30 | -0.22±0.30 | -0.25±0.36 | -0.35±0.47 | -0.25±0.33 |  |  |
| Serum lactate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 0.98±0.26 | 1.67±1.08 | 1.36±0.65 | NA | 1.05±0.37 | 1.13±0.40 | 0.70±0.42 | 0.93±0.40 | 1.08±0.70 | NA | 1.03±0.64 | NA | 0.60±0.14 | 1.18±0.97 | 0.50±0.14 | 0.55±0.06 | NA | 0.45 | <.0001 |
| Subgroup without waves | 1.28±0.93 | 1.08±0.61 | 1.09±0.57 | 1.45±0.58 | 0.96±0.47 | 1.16±0.36 | 0.89±0.37 | 0.89±0.32 | 1.05±0.69 | 0.66±0.19 | 0.99±0.38 | NA | 0.77±0.50 | 0.63±0.18 | 0.83±0.50 | 0.79±0.39 | 0.73±0.42 |  |  |
| Left ScO2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 58.0±5.8 | 55.3±7.4 | 61.8±11.4 | 57.7±7.9 | 58.9±8.8 | 59.8±8.9 | 62.7±6.2 | 67.8±10.7 | 72.7±11.5 | 79.3±13.4 | 67.8±7.0 | 74.6±16.9 | 80.3±14.1 | 79.0±14.9 | 75.4±11.3 | 66.6±5.0 | NA | 0.88 | <.0001 |
| Subgroup without waves | 58.5±15.1 | 57.0±11.4 | 56.4±8.8 | 60.3±10.8 | 60.1±11.4 | 62.9±10.1 | 62.8±10.6 | 67.2±11.5 | 68.1±12.1 | 71.5±10.4 | 70.4±11.6 | 71.4±10.8 | 71.5±11.9 | 73.6±10.0 | 78.2±8.6 | 67.7±9.9 | 73.6±10.4 |  |  |
| Right ScO2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 63.4±8.9 | 55.6±8.0 | 57.6±7.7 | 56.4±10.1 | 56.4±10.0 | 56.3±9.3 | 61.5±8.2 | 63.3±7.1 | 63.1±10.5 | 73.6±9.1 | 70.0±11.5 | 71..5±12.0 | 76.0±11.2 | 74.2±10.0 | 73.3±10.4 | 72.3±10.4 | 74.3±12.0 | 0.61 | <.0001 |
| Subgroup without waves | 56.8±15.6 | 54.4±12.8 | 52.8±8.9 | 55.6±11.5 | 56.8±12.1 | 58.1±10.9 | 62.1±8.8 | 64.9±12.8 | 66.1±10.1 | 67.8±11.2 | 70.2±11.8 | 71.8±9.7 | 74.2±13.0 | 73.1±11.5 | 72.9±9.2 | 68.4±8.8 | 72.0±11.8 |  |  |
| EEG background |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 1.0±0.8 | 0.9±0.8 | 1.0±0.8 | 0.9±0.6 | 0.8±0.7 | 0.7±0.7 | 0.4±0.5 | 0.3±0.5 | 0.3±0.5 | 0.3±0.5 | 0.3±0.5 | 0.4±0.8 | 0.4±0.8 | 0.4±0.6 | 0.3±0.5 | 0.2±0.5 | 0.5±0.7 | 0.03 | <.0001 |
| Subgroup without waves | 0.5±0.5 | 0.3±0.5 | 0.2±0.4 | 0.3±0.4 | 0.3±0.5 | 0.2±0.4 | 0.2±0.4 | 0.2±0.4 | 0.3±0.4 | 0.2±0.4 | 0.2±0.4 | 0.2±0.4 | 0.2±0.4 | 0.3±0.5 | 0.1±0.4 | 0.1±0.3 | 0 |  |  |
| EEG sharp waves |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 95±95 | 65±73 | 63±76 | 36±30 | 46±50 | 31±38 | 17±16 | 16±14 | 17±14 | 20±22 | 21±20 | 29±29 | 15±17 | 17±18 | 19±21 | 29±26 | 6±3 | 0.003 | <.0001 |
| Subgroup without waves | 30±61 | 22±48 | 20±29 | 20±35 | 17±23 | 15±16 | 16±15 | 21±24 | 9±7 | 10±7 | 10±11 | 9±8 | 6±4 | 6±6 | 8±10 | 13±16 | 2±1 |  |  |
| SrO2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subgroup with waves  | 64.4±11.3 | 71.1±13.5 | 71.6±7.3 | 72.8±6.0 | 70.1±8.3 | 73.9±8.3 | 73.3±8.7 | 72.8±11.4 | 73.2±12.9 | 77.8±6.6 | 74.1±9.8 | 77.0±8.1 | 72.6±4.0 | 70.6±9.0 | 70.1±8.1 | 69.7±8.5 | 70.1±5.3 | 0.10 | <.0001 |
| Subgroup without waves | 76.1±13.1 | 80.7±8.5 | 80.8±9.0 | 78.3±11.7 | 77.1±12.0 | 77.1±10.0 | 75.0±13.8 | 77.7±11.1 | 77.2±11.8 | 80.1±10.1 | 78.9±10.9 | 80.0±9.1 | 81.2±8.4 | 78.2±8.4 | 78.8±8.5 | 73.6±8.9 | 74.4±10.1 |  |  |