Supplementary Material

24-hour continuous noninvasive multiparameter home monitoring of vitals in patients with Rett syndrome by an innovative wearable technology: Evidence of an overlooked chronic fatigue status

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**Supplementary Table 1.** Twentyfour-hour continuous home monitoring of RTT patients (*n*=10) as a function beta blocker therapy

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | | **Beta-blocker therapy** | | ***p*-value** |
| **No (n=9)** | **Yes (n=1)** |
| Wearable monitoring parameters | HR (bpm) | 97.8  [52-153] | 79.7  [46.5-135.5] | 0.1487 |
| RR (breaths per min) | 25.9  [12-47.5] | 27.6  [12.0-48.5] | 0.9145 |
| HR max % (bpm) | 73.0  [62.2-82.5] | 64.8  [56-73.7] | **<0.0001** |
| Skin Temperature (°C) | 38.7  [37.1-39.2] | 35.3  [25.4-37.1] | **<0.0001** |
| HRV time-domain parameters | RMSSD (ms) | 161.7  [14.8-549.5] | 217.8  [46.7-378.5] | 0.2400 |
| SDNN (ms) | 133.1  [18.2-432.6] | 149  [37.8-268.9] | 0.5553 |
| SDRR (ms) | 19.2  [2.4-52.8] | 14.9  [1.4-49.2] | 0.1264 |
| CVSD (ms) | 0.27  [0.03-0.47] | 0.20  [0.04-0.46] | 0.5000 |
| pNNI-20 (%) | 63.4  [11.1-93] | 69.9  [34.3-94.1] | 0.4009 |
| pNNI-50 (%) | 39.0  [0-88.9] | 46.6  [11.5-82.9] | 0.5877 |
| SDSD (ms) | 160.5  [14.5-367.3] | 163.1  [33.8-289.9] | 0.8876 |
| M-NNI (ms) | 554.7  [410-977] | 558.5  [435.6-1101.9] | 0.4136 |
| CVNNI (ms) | 0.18  [0.03-0.47] | 0.18  [0.03-0.32] | 0.9718 |
| HRV frequency-domain parameters | LFnu (Hz) | 18.3  [17.2-19.2] | 15514.5  [14566.5-16018.0] | **<0.0001** |
| HFnu (Hz) | 82.7  [81.6-84.4] | 84.4  [83.3-85.2] | **<0.0001** |
| LF / HF ratio | 0.218  [0.195-0.230] | 0.187  [0.177-0.204] | **<0.0001** |
| Total power (ms2) | 157.8  [32.0-366.0] | 214.3  [105.9-419.8] | **0.0022** |
|  | HR/LF ratio | 5.3  [1.9-7.7] | 0.005  [0.003-0.010] | **<0.0001** |
| Indoor air (IA) monitoring parameters | IA CO2 (ppm) | 937  [487.3-1444] | 980.4  [360.5-1689] | 0.4765 |
| IA relative humidity (%) | 64.1  [53-73] | 73.7  [61-82] | **<0.0001** |
| IA noise level (dB) | 39.0  [33-52.7] | 35.0  [31-50] | 0.1686 |
| IA atmospheric pressure (mbar) | 1014.7  [1013.3-1017.9] | 1020.6  [1020.1-1028.3] | **<0.0001** |
| IA temperature (°C) | 22.8  [19.3-25.2] | 21.2  [20.1-22.8] | 0.2030 |
| PH2O (pt) (mbar) | 6.6  [6.3-9.0] | 7.7  [7.6-7.7] | **<0.0001** |
| PCO2 (pt) (ppm) | 346.4  [219.2-737.3] | 541.0  [441.8-585.3] | 0.0024 |

Legend: HR, heart rate; RR, respiratory rate; HRmax %, percentage of maximum heart rate; Skin Temp, skin temperature; RMSSD, Root Mean square of successive RR interval differences; RR intervals, interbeat intervals between all successive heartbeats; SDNN, Standard Deviation of all NN intervals; NN intervals, interbeat intervals from which artifacts have been removed; SDRR, standard deviation of RR intervals; CVSD, RMSSD divided MeanNNI; pNNI-20, Percentage of successive R-R intervals that differ by more than 20 ms; pNNI-50, Percentage of successive R-R intervals that differ by more than 50 ms; SDSD, SD of successive differences between NN; M-NNI, Mean of NN; CVNNI, SDNN divided by mean NN; LFnu, normalized Low-Frequency power; HFnu, normalized High-Frequency power; IA, indoor air; PH2O (pt), water vapor partial pressure originating from patients in the bedroom; PCO2 (pt), CO2 partial pressure originating from patients in the bedroom; A.U., arbitrary units.