**Table.1 Mean ± S.E, values of electrocardiographic parameters in horses before and after exercise (n=18)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameters** | **Before exercise** | **After exercise** | **p value** |
| P wave duration (ms) | 115.56 ± 5.50 | 82.22 ± 5.08 | 0.000\*\* |
| P wave amplitude (mv) | 0.34 ± 0.01 | 0.46 ± 0.04 | 0.006\*\* |
| QRS duration (ms) | 75.56 ± 5.50 | 75.56 ± 5.50 | 1.000 NS |
| PQ interval (ms) | 291.11 ± 20.14 | 205.56 ± 10.94 | 0.002\*\* |
| T wave duration (ms) | 93.33 ± 9.15 | 86.67 ± 9.29 | 0.592 NS |
| T wave amplitude (mv) | 1.04 ± 0.11 | 1.59 ± 0.34 | 0.113 NS |
| QT interval (ms) | 360.00 ± 9.15 | 273.33 ± 12.21 | 0.000\*\* |
| RR (interval (ms) | 1573.33 ± 61.27 | 904.44 ± 52.36 | 0.000\*\* |
| HR (bpm) | 38.89 ± 1.42 | 70.67 ± 4.62 | 0.000\*\* |

\*Significantly different from the mean value compared to before exercise (p < 0.05). \*\* Highly significant difference from the mean value compared to before exercise (p < 0.01). NS Non-significant difference from the mean value compared to before exercise.

**Table.2 Mean ± S.E, values of echocardiographic parameters in horses before and after exercise (n=18)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameters** | **Before exercise** | **After exercise** | **p value** |
| IVSd (cm) | 2.25 ± 0.11 | 2.33 ± 0.12 | 0.159 NS |
| LVIDd (cm) | 9.08 ± 0.34 | 10.03 ± 0.24 | 0.003\*\* |
| LVPWd (cm) | 2.30 ± 0.14 | 2.67 ± 0.20 | 0.045\* |
| IVSs (cm) | 3.63 ± 0.16 | 3.67 ± 0.16 | 0.703 NS |
| LVIDs (cm) | 5.63 ± 0.26 | 6.24 ± 0.19 | 0.010\*\* |
| LVPWs (cm) | 3.76 ± 0.25 | 3.78 ± 0.19 | 0.936 NS |
| EDV (mL) | 470.00 ± 37.41 | 568.56 ± 28.70 | 0.004\*\* |
| ESV (mL) | 167.00 ± 15.13 | 197.54 ± 14.16 | 0.048\* |
| EF (%) | 62.23 ± 1.40 | 67.76 ± 2.30 | 0.028\* |
| SV (mL) | 295.42 ± 24.20 | 385.42 ± 23.77 | 0.002\*\* |
| FS (%) | 35.29 ± 1.02 | 40.51 ± 1.90 | 0.011\* |
| Ao (cm) | 6.24 ± 0.16 | 6.70 ± 0.20 | 0.019\* |
| LA (cm) | 7.59 ± 0.23 | 8.43 ± 0.24 | 0.002\*\* |
| LA/Ao | 1.23 ± 0.04 | 1.26 ± 0.03 | 0.427 NS |

Abbreviations: d and s, diastolic and systolic measurement respectively; IVS and LVPW, thickness of the interventricular septum and left ventricular posterior wall respectively; LVID, left ventricular internal diameter; LA and Ao, internal diameter of the left atrium and aorta respectively; EDV and ESV, end diastolic and end systolic left ventricular volume respectively; FS, fractional shortening of the left ventricle; EF, ejection fraction; SV, stroke volume.

**Table.3 Mean ± S.E, values of cardiac biomarkers in horses before and after exercise (n=18)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameters** | **Before exercise** | **After exercise** | **p value** |
| Cardiac Troponin I (ng/mL) | 0.01 ± 0.00 | 0.03 ± 0.01 | 0.003\*\* |
| Cardiac Troponin T (pg/mL) | 13.64 ± 0.71 | 28.95 ± 4.52 | 0.001\*\* |
| NT-proBNP (pg/mL) | 14.78 ± 1.01 | 32.87 ± 3.92 | 0.000\*\* |
| CK-MB (U/L) | 91.06 ± 27.96 | 151.56 ± 39.55 | 0.006\*\* |

**Abbreviations:** NT-proBNP, N-Terminal pro Brain Natriuretic peptide; CK-Mb, Creatine kinase myocardial binding. \*Significantly different from the mean value compared to before exercise (p < 0.05). \*\* Highly significant difference from the mean value compared to before exercise (p < 0.01). NS Non-significant difference from the mean value compared to before exercise.