

Effect of the Baseline Selection in the P-Q and T-P Intervals of Magnetocardiography

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The baseline selection is the first step and important to analyze magnetocardiography (MCG) parameters. There are no difficulties to select the baseline between P-wave and Q-wave (P-Q interval) of MCG data recorded from healthy subjects because the P-Q intervals of the healthy subjects do not much vary. However, patients with heart disease often show the unstable P-Q interval, which does not seem to be an appropriate interval to be selected for the baseline. In this case, T-P interval is alternatively recommended for the baseline. However, no study is found how much difference is made by the different selection of the baselines. In this study, we studied the effect of the different baseline selection. MCG data were analyzed from twenty healthy subjects and twenty patients whose baselines were alternatively selected in the T-P interval for their inappropriate P-Q interval. Paired T-test was used to compare two set of data. Seventeen parameters derived from R-wave peak, T-wave peak, and $T_{\max/3} \sim T_{\max}$ were compared for the different baseline selection. As a result, most of parameters were not showing significant difference ($p < 0.05$) except few related with magnitude and distance. Therefore, it is recommended to select any of two intervals for the MCG baseline.