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The influence of some clinical data in patients with acute myocardial infarction on heart rate turbulence parameters

A. Śliwińska, B. Średniawa, A. Musialik-Łydka, W. Streb, P. Jarski, J. Kowalczyk, T. Zielińska, J. Obrębska, P. Pruszkowska-Skrzep, Z. Kalarus
1st Department of Cardiology, Medical University of Silesia, Silesian Center for Heart Diseases (Zabrze, Poland)

Aim of the study: The assessment of heart rate turbulence (HRT) parameters in patients (pts) with acute myocardial infarction (AMI) in regard to some clinical data.

Material and methods: A study group consisted of 50 consecutive pts (82% males, n = 41; 18% females, n = 9), treated with PCI on admission because of AMI. The mean age was 61.2 ± 11.2 years, diabetes mellitus (DM) occurred at 32% pts (n = 16), 58% (n = 29) suffered from arterial hypertension (HA) and 28% (n = 14) had a history of myocardial infarction (MI). HRT onset and HRT slope for 24 hours period (TO24, TS24) and then for the day (TOd, TSd) and sleeping time (TOs, TSs) were estimated.

Results: There were observed statistically significant differences between TSd (5.61 ± 6.05) and TSs (8.59 ± 7.29), p = 0.002 and between TS24 (5.88 ± 5.69) and TSs, p = 0.002. The results referring to the influence of studied clinical data on HRT parameters are shown in Table 1. There was observed correlation between age and TS24, TSd, TSs (–0.59 < R < –0.056; p < 0.00001).

	Mean TO24	Mean TS24	Mean TSd	M mean TSs
DM	–0.41 ± 1.65	3.14 ± 3.25	3.28 ± 3.84	5.11 ± 6.38
non-DM	–0.99 ± 1.98	7.17 ± 6.17	6.71 ± 6.62	10.23 ± 11.98
p	NS	< 0.05	NS	NS
HA	0.22 ± 1.5	4.16 ± 4.50	3.44 ± 3.67	6.92 ± 11.68
non-HA	–1.69 ± 2.05	8.47 ± 6.40	8.88 ± 7.43	11.11 ± 8.79
p	< 0.025	< 0.05	<0.005	< 0.05
MI	–0.61 ± 1.75	3.00 ± 3.62	3.23 ± 4.43	3.89 ± 3.68
non-MI	–0.88 ± 1.95	7.00 ± 5.99	6.54 ± 6.39	10.42 ± 11.98
p	NS	< 0.05	< 0.05	< 0.025

Conclusions: HRT parameters are influenced by age and circadian cycle and are independent on sex. The worse HRT parameters and therefore worse function of baroreceptors are in patients with AMI who additionally suffered from diabetes mellitus, arterial hypertension and with the history of MI.