

Relevance of heart rate variability in assessment of autonomic nervous system function in subjects in perioperative period

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Assessment of the autonomic nervous system function could be of great importance in evaluation of the risk factors of the patients in perioperative period. Surgery and anaesthesia as integral medical procedures aimed as restoring and improving different disorders of homeostasis and physical conditions of subjects with different ailments and functional cardiac reserves have strong influence on haemodynamic function in perioperative period and it is of a great importance to clearly define if an individual patient is at a great risk of autonomic dysfunction in addition to the underlying morbidity, which increase the risk of morbidity and mortality in the perioperative period.

Clinical tests for evaluation of autonomic nervous dysfunction have not become widely used by clinicians for several reasons. Some of the clinical tests are quite demanding what makes them less possible for performing in patients with poor reserve and more comorbidities and there are also

difficulties in interpretation of subjective findings. Monitoring of heart rate variability as a parameter of autonomic nervous system activity has been clearly advocated in the risk assessment and follow up of the patients who develop diabetes mellitus and patients with coronary syndrome¹.

In subjects with diabetes mellitus who could have cardiac autonomic diabetic neuropathy, the quite serious condition of haemodynamic instability could increase the risk of aggravation and complications of the general condition in perioperative period². On the other hand, most subjects with different stages of coronary syndrome have been shown to have different alterations of heart rate variability, and monitoring of heart rate variability in perioperative period could be a part of predicting tools of risk factors for surgery and anaesthesia³. The aim of this paper to give a review of the importance of assessment of heart rate variability in relatively healthy subjects and subjects with different comorbid states, focusing on presenting of different findings of linear measures of the analysis of parameter by means of two different softwares.

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Figure 1. Tachogram during calm and deep respiration in relatively healthy subject (*HrvFreqVers 4.01, 2006*).



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