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Title: Experimental model effect of apnoe on some ECG parameters in chronobiological dependence

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Body: Introduction: The decrease of the pulmonary ventilation or stop of breathing lead to hypoxic state changing vulnerability of the hearth to arrhythmias, but connection between these factors in the dependence on light-dark (LD) cycle is less known. Aims: The aim of study was to evaluate the effect of apneic episode on PQ and QT interval in dependence on LD cycle. Methods: The experiments were performed in ketamine/xylazine anaesthetized female Wistar rats after adaptation to a lighted regime of 12:12h for 4 weeks. The animals were artificial ventilated by respirator. The apneic episode was simulated by switching off the respirator for 2 minutes. PQ and QT intervals were evaluated in intact animals at spontaneous breathing and after 30., 60., 90 and 120 sec. of apneic episode. Results: PQ and QT interval was significantly prolonged ($p<0,01$) with the duration of apneic episode. The significant LD differences ($p<0,01$) in duration of PQ intervals were found after 30. and 60. sec. of apneic episode, but this significance was not determined after 90. and 120 sec. Significant differences ($p<0,01$) were found in the QT interval duration only after 90. and 120 sec. of apneic episode. Vulnerability to arrhythmias resulting from disorders of impulse production and conduction (PQ interval) was higher in the light period and myocardial vulnerability to arrhythmias resulting from disorders of the refractory period dispersion (QT interval) was higher in the dark period. Conclusion: Long-term apneic episode connected with more serious asphyxia increases vulnerability to arrhythmias, but probably by the manner dependent on light and dark periods.