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A wavelet-based approach for monitoring baroreceptors function test in rats(Conference Paper)

Postolache, G., Rocha, I., Silva-Carvalho, L., Postolache, O., Girão, P.

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Краткое описание

The arterial baroreceptor reflex is an important determinant of autonomic control of cardiovascular system for homeostasis. The present work proposes a wavelet analysis for monitoring baroreflex behavior using wavelets analysis of short time rats R-R and systolic arterial pressure signal (SAP). The instantaneous power of decomposed low-frequency (LF) and high-frequency (HF) components was used for a time-variant spectral analysis. Our results show that fast events and changes in autonomic modulation were detected with high temporal resolution. The methods applied yielded the same values of baroreceptor sensitivity as the baroreflex gain by phenylphrine test. The results indicate that wavelets analysis can be used as non-invasive methods of dynamic assessment of baroreflex response and may be an useful tool in exploring fast autonomic control of the cardiovascular system.

Актуальность темы SciVal

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[Baroreceptor monitoring](#) [R-R peak detection](#) [Statistical analysis](#) [Wavelet processing](#)

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Engineering controlled terms:

[Algorithms](#) [Brain](#) [Cardiovascular system](#) [Control systems](#) [Data acquisition](#) [Drug products](#) [Fast Fourier transforms](#) [Interpolation](#) [Mathematical models](#) [Natural frequencies](#) [Statistical methods](#)

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