Heart Rate Variability (HRV) indicates the variation of heart rate about its mean value. HRV has been found to be influenced by various physiological phenomena and also by various pathologies. In this paper the influence of Thyroid on HRV data has been investigated. For the purpose of investigation the Spectral Entropy (SpEn) values of six Thyroid and ten healthy subjects of 23 years -30 years age group, having eight male and 8 female were estimated.
From the results it is observed that average SpEn values of Healthy subjects is 2.1 and thyroid subjects average SpEn is 0.45. From the results it is concluded that SpEn of Thyroid subjects is 33% of healthy subjects, which is significantly lower than that of Healthy subjects and SpEn values of males is little higher than that of females. Further it may be interpreted as HRV has been influenced by thyroid. This influence of thyroid on HRV may be attributed due to the Autonomous Nervous System (ANS) dysfunction. The SpEn may be useful for the noninvasive detection of Thyroid.

Reference

- Aihua Zhang, Bin Yang, and Ling Huang "Feature extraction of EEG signals Using Power Spectral Entropy, proceedings of international conference on biomedical Engineering and Informatics, vol2, pp435-439, 2008
- B. Anuradha and V.C. Veera Reddy "Cardiac Arrhythmia classification using fuzzy classifiers", Journal of theoretical and applied information technology, pp352-359, 2005
- Keesam Jeong et.al "A study on relationship between heartrate variability and autonomic balance" Proceedings - 19th International Conference –IEEE/EMBS, California, USA 1997,
- Saif Ahmed et.al "A Review and Analysis of HRV and diagnosis and prognosis of infection" critical care, 13:232, 2009
- Xiaopeng Bai, Jingxiu Li, Lingoj Zhou and Xueqi Li "Influence of the menstrual cycle on nonlinear properties of heart rate variability in young women" Am. J. Physiol Heart Circ Physiol 297, H765-H774, 2009
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Key words

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