

Heart rate recovery to sub maximal exercise in patients with subclinical hypothyroidism – an observational study

Nagalakshmi Vijaykumar^{1,*}, Vivek P², Shobha C. Nallulwar³

¹Associate Professor, ³Professor & HOD, SDMCMS & H, Dharwad, Karnataka, ²Assistant Professor, Dept. of Physiology, Chamarajanagar Institute of Medical Sciences, Chamarajanagar, Karnataka

***Corresponding Author:**

Email: drlakshmi26@yahoo.com

Abstract

Introduction: Exercise intolerance is typical characteristic of the subclinical hypothyroidism.

Purpose: Evaluation of heart rate responses to sub maximal exercise in subclinical hypothyroidism.

Materials and Method: Twenty three subclinical hypothyroids and thirty age, sex and BMI matched euthyroid controls were selected. Sub maximal exercise was performed using Bruce protocol using 75% target heart rate in treadmill. Heart rate recovery to sub maximal exercise was done using ECG lead II.

Results: Compared to Euthyroid controls, Subclinical Hypothyroidism (SCH) show a significant increase in warm up period heart rate. ($p=0.05$). There is a significant increase in the heart rate during recovery period at both 1st and 2nd minute in SCH when compared to controls. ($p=0.03, 0.01$), negative correlation exist between TSH level and 1st minute heart rate recovery.

Conclusion: We conclude that subjects with Subclinical hypothyroidism, shows a delayed heart rate recovery in response to a sub maximal exercise.

Keywords: Parasympathetic tones, Basal metabolic rate, Physical Exertion, Exercise tolerance, Hypothyroidism
