**HYPOTHYROIDISM IN POSTURAL ORTHOSTATIC TACHYCARDIA SYNDROME (POTS) PATIENTS**

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**Introduction**: POTS is a condition of dysautonomia characterized by abnormal increments in heart rate upon assumption of the upright posture accompanied by symptoms of cerebral hypoperfusion and sympatho-excitation. An increase in heart rate equal to or greater than 30 BPM or to levels higher than 120 BPM during a head-up tilt test is the main diagnostic criterion. The symptoms of pots are widespread because the autonomic nervous system plays an extensive role in regulating functions throughout the body. However, hypothyroidism is a common condition of thyroid hormone deficiency. Clinical manifestations of hypothyroidism range from serious life threatening symptoms to no signs or symptoms. The most common symptoms in adults are fatigue, lethargy, cold intolerance, weight gain, constipation, change in voice, and dry skin, but clinical presentation can differ with age and sex, among other factors. The standard treatment is thyroid hormone replacement therapy with Levothyroxine.

**Objective**: The aim of this study is to determine co-dominance and association between POTS and Hypothyroidism as those patients have shared symptoms including fatigue, temperature intolerance, bradycardia, and muscle aches.

**Methods**: A retrospective study done on 798 POTS patients was conducted from June 2014 till September 2017. We reviewed the medical records for 798 POTS patients for Hypothyroidism.

**Results**: Out of 798 POTS patients we found 125 out of 678 (18.43%) females with the mean age of 37.981 +/- 12.368 were diagnosed with Hypothyroidism. We also found 12 out of 114 males (10.52%) with the mean age 40.666 +/- 16.408 who were also diagnosed with hypothyroidism. The patients have been consistently taking their hypothyroidism drugs, however have not seen improvements in their POTS symptoms.

**Conclusions**: Our study has shown that some patients with hypothyroidism might not show improvement in their symptoms are obscured because of the presence of POTS. These patients need additional attention and specific management for their POTS condition.