

# Clinical Scenarios involving Hypothyroidism and Subclinical Hypothyroidism

Campbell Oliver \*

Department of Oto-Rhino-Laryngology and Cervico-Facial Surgery, University Paris Descartes Sorbonne Paris Cité, Paris, France

## DESCRIPTION

A frequent clinical disorder with varying frequency is hypothyroidism. It has significant impacts on cardiac function that may affect heart rhythm, blood pressure, vascular resistance, and cardiac contractility. We want to discuss how hypothyroidism and subclinical hypothyroidism affect the heart in this review. Additionally an effort to succinctly explain how treating hypothyroidism impacts cardiovascular parameters. The fundamentals of thyroid hormone therapy, including different thyroid hormone formulations, the implementation and supervision of thyroid hormone therapy, side effects of overtreatment, the treatment of patients who continue to experience symptoms despite having normal thyroid function tests, and potential future developments in thyroid hormone therapy. The findings confirm the need for hypothyroid individuals to get personalized thyroid hormone replacement treatment.

Secondary hypertension has been linked to hypothyroidism in several studies. The frequency of hypertension in people with hypothyroidism has been shown in prior research to have higher blood pressure readings. Hypothyroidism and diastolic hypertension have been linked to increased peripheral vascular resistance and low cardiac output, according to some theories. Significant volume changes in the hypothyroid population cause a volume-dependent blood pressure mechanism with low plasma renin activity. A specific kind of hypothyroidism called central hypothyroidism results from inadequate TSH stimulation of a thyroid gland that is otherwise healthy. For this reason, a review of the most pertinent research on CH epidemiology, pathophysiology, and clinical therapy has been carried out. This illness presents a number of issues for physicians. CH may result from a variety of conditions that affect either the hypothalamus or the pituitary gland, but most commonly both of them. A thousand times less people have CH than primary hypothyroidism.

The thyroid hormone deficiency is rarely as severe as can be seen in certain primary forms, with the exception of the neonatal CH caused by biallelic TSH mutations. As opposed to primary hypothyroidism, Congenital Hypothyroidism (CH) is often

characterized by low/normal TSH levels, and appropriate thyroid hormone supplementation is linked to, As a result, CH frequently poses a clinical difficulty for doctors since they cannot rely on the consistent application of the "reflex TSH method."

The frequent combination and replacement of other pituitary deficiencies with CH further complicates the clinical management of the condition. There is a subpopulation of hypothyroid individuals that is regularly encountered; these patients are resistive to conventional thyroid hormone replacement therapy and require unusually large doses of levothyroxine. Therapeutic failure may result from poor medication absorption in addition to clinical scenarios where hypothyroid patients are non-compliant or if there is a risk of excipient-induced illness worsening (gluten/celiac disease).

Levothyroxine dosage is frequently increased until desired TSH levels are reached in order to manage patients with unique thyroxin demands. By exposing patients to levothyroxine for a longer period of time, this method raises the possibility of unfavorable effects. Levothyroxine dosage modifications that are made repeatedly might increase treatment expenses since they need many office visits and lab checks to establish and keep the correct dose. Clinicians should manage patients who they feel have hypothyroidism that is resistant to therapy in a methodical manner. Before increasing the dose of conventional levothyroxine medication, this may involve looking for and modifying occult medical problems and/or other variables that might impair the absorption of levothyroxine. Alternative levothyroxine formulations that are less prone to excipient intolerance problems or, in certain situations, malabsorption may be tried as a different strategy, depending on the underlying pathology. Early identification of these issues through a thorough patient work-up may help physicians and patients alike avoid needless modifications to thyroid medication. One of the most frequent conditions seen in an endocrine office practice is subclinical hypothyroidism, characterized by increased blood levels of Thyroid Stimulating Hormone (TSH) with normal levels of free thyroid hormones. Elevated TSH levels in people with subclinical hypothyroidism are thought to be caused by modest tissue hypothyroidism rather than pituitary compensation to maintain euthyroidism. Some people with this illness have minor

**Correspondence to:** Campbell Oliver, Department of Oto-Rhino-Laryngology and Cervico-Facial Surgery, University Paris Descartes Sorbonne Paris Cité, Paris, France, E-mail: oliver.campbell22@hotmail.com

**Received:** 20-Oct-2022; Manuscript No. JTDT-22-20985; **Editor assigned:** 24-Oct-2022; PreQc No. JTDT-22-20985 (PQ); **Reviewed:** 14-Nov-2022; QC No. JTDT-22-20985; **Revised:** 23-Nov-2022, Manuscript No. JTDT-22-20985 (R); **Published:** 02-Dec-2022, DOI: 10.35248/2167-7948.22.11.280.

**Citation:** Oliver C (2022) Clinical Scenarios involving Hypothyroidism and Subclinical Hypothyroidism. *Thyroid Disorders Ther.* 11: 280.

**Copyright:** © 2022 Oliver C. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

blood lipoprotein abnormalities and subtle hypothyroid symptoms that might lead to atherosclerosis and heart disease.

Additionally, the chance of developing overt hypothyroidism and the risk of neuropsychiatric side effects are linked to subclinical hypothyroidism. These factors call for increased population screening for subclinical hypothyroidism. Treatment for subclinical hypothyroidism is not supported by enough data. If the serum TSH level is  $>10$  m IU/L, thyroxin therapy should be administered; however, for lower TSH values, the choice of therapy should be made on an individual basis. The epidemiology, Etiopathogenesis, clinical manifestation, diagnosis, and therapy of subclinical hypothyroidism are all

reviewed in this article. We offer some screening and treatment suggestions based on the tenets of evidence-based medicine.

## CONCLUSION

Primary and subclinical hypothyroidism are more common in females and those who are 60 years of age or older. While there are guidelines for screening, many organizations have different requirements or suggested ages for screening to begin. Values for TSH and free T4 are useful for monitoring and diagnosing. The preferred medication for replacing endogenous thyroid hormone is still levothyroxine. Treatment for subclinical hypothyroidism is debatable despite evidence to the contrary.