

**UNDERSTANDING THE PATHOGENESIS AND MANAGEMENT OF  
AUTOIMMUNE HYPERTHYROIDISM**

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**Objectives:** Autoimmune hyperthyroidism, also known as Graves' disease, is a commonly diagnosed endocrine disorder resulting from the overstimulation of the thyroid gland by antibodies directed against the thyroid-stimulating hormone receptor (TSHR). The autoantibodies, known as thyroid-stimulating immunoglobulins (TSI), bind to the TSHR, leading to the excessive production of thyroid hormones, primarily triiodothyronine (T3) and thyroxine (T4). This thesis aims to provide a comprehensive review of the pathogenesis and management of autoimmune hyperthyroidism.

**Methodology:** The first chapter will provide a general introduction to the thyroid gland and autoimmune hyperthyroidism, including its epidemiology, pathogenesis, and clinical manifestations. This chapter will also discuss the diagnostic tools commonly used to diagnose autoimmune hyperthyroidism, including thyroid function tests, imaging studies, and measurement of TSI antibodies.

The second chapter will examine the pathogenesis of autoimmune hyperthyroidism, including the genetic factors, environmental triggers, and immune processes involved in the development of the disease. The chapter will also discuss the role of TSI and other autoantibodies in the pathogenesis of autoimmune hyperthyroidism.

The third chapter will focus on the clinical management of autoimmune hyperthyroidism. The chapter will review the available treatment options, including anti-thyroid drugs, radioactive iodine therapy, and thyroidectomy. The chapter will also discuss the advantages and disadvantages of each treatment option, as well as the potential complications associated with each.

**Results:** The fourth chapter will discuss the management of special populations with autoimmune hyperthyroidism, including pregnant women, children, and the elderly. This chapter will review the specific challenges faced by

these populations and the appropriate treatment options based on these challenges.

The fifth chapter will focus on the long-term management of autoimmune hyperthyroidism. This chapter will review the potential complications associated with autoimmune hyperthyroidism and the role of long-term monitoring and management in the prevention of these complications.

**Conclusion:** This thesis will provide a comprehensive overview of the pathogenesis and management of autoimmune hyperthyroidism. The information gathered from this thesis will contribute to the ongoing research and development of effective management strategies for autoimmune hyperthyroidism. The findings will also inform clinical practice guidelines for the diagnosis and management of autoimmune hyperthyroidism.

#### **LITERATURE:**

1. "Endocrinology: An Integrated Approach" by Stephen Nussey and Saffron Whitehead.
2. "The Endocrine System: An Integrated Approach" by Michael Hill.
3. "Clinical Endocrinology and Diabetes Mellitus" by Ramzi Ajjan.
4. "Contemporary Endocrinology" edited by Ashley Grossman.

