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GRAVE'S DISEASE

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Grave's Disease is the precursor of generalized hyperthyroidism that manifests itself through autoimmune disturbances of the thyroid gland. It is named after Robert Grave's who described this disease 150 years ago. Understanding Grave's hyperthyroidism, its mechanisms and manifestations is vital for any aspiring clinician because it is a significant disturbance in the metabolic and immune system.

The goal of this article is to provide a deeper general understanding to future general physicians. Seeing that general physicians must first refer their patients to specialists, we must be very educated on the matter of metabolic disturbances such as Grave's Disease. This is an important because a timely and accurate diagnosis may prevent many further complications of the patient, and may improve patient's quality of life.

The thyroid gland is a butterfly shaped, ductless organ that consists of two lobes and an isthmus located right below the cricoids cartilage. The thyroid is responsible for secreting Triiodothyronine (T_3) and Thyroxine (T_4) into the bloodstream in accordance with pituitary and hypothalamic interaction. These hormones are vital in the respiratory regulation, heart rate, central and peripheral nervous system, metabolic regulation, body temperature regulation and more. In the presence of Grave's hyperthyroidism, elevated T_4 and T_3 levels are noted in the blood resulting in subsequent physiological disturbances.

There are some mechanisms in Grave's Disease development; however the following are the most common. Specific etiology of Grave's disease is unknown, however many clinicians and specialists speculate that extreme stressors may trigger an autoimmune disturbance causing antibodies to bind to the surface of the thyroid cells stimulating their overproduction, resulting in hyperthyroidism. Another hypothesis is inheriting an immune system that is genetically predisposed to thyroid problems. Long standing viral infections that interrupt proper immune function may also be etiological factors.

Unless a physician specializes in endocrinology, many patients go misdiagnosed due to many differential diagnosis of thyroid disorder being similar to that of other illnesses. However, the urgency of general physicians being proficient in the knowledge of metabolic/immune disorders such as Grave's Disease is crucial in the prevention of residual effects of these disorders. Accurate and timely diagnoses directly affects the patient's quality of life, furthering the importance of knowledge in Grave's Disease.