

Endocrine system

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The Endocrine System Thyroid glands forms one of the largest endocrine systems in the body, it is found around the neck region and is responsible for the production of hormones thyroxine and triiodothyronine. The hormones are important during fuel metabolism that drives energy synthesis as well as protein expression in living organisms (Yadav 166). The syntheses of these hormones are from iodine and tyrosine and extend to regulation of calcium homeostasis through the production of calcitonin (Yadav 156). Unregulated production of thyroid glands hormones can lead to physiological departure leading to many complications in the body. The conditions that arise from uncontrolled production of thyroid hormones can be either hypothyroidism or hyperthyroidism i. e. low and high hormones production respectively (Yadav 189). Hyperthyroidism leads to development of an autoimmune disease called Graves' disease. This disease develops exophthalmoses thus the occurrence of this condition is pegged on Graves' disease that is caused by dysfunction of the thyroid glands. The slight swelling on the Ellie's neck is a show that there is accumulation of the unchecked thyroid hormones production and this is necessary for prognosis of Graves' disease (Yadav 167). Ellie's condition is brought by hyperthyroidism, this is vividly evidenced by the fact that she develops exophthalmos, a condition that is only possible in Graves' disease caused by overactive thyroid gland. The swelling on the neck region also confirms that there is over production of the hormones moreover, it is the neck region that the thyroid glands are located. In an event that Ellie has hyperactive thyroid glands, the levels of the thyroids hormones will be abnormally high while that of the thyroid-stimulating hormone will be low. In the case of hypothyroid, the reverse will happen regarding the levels of the hormones (Yadav 188). The abnormally high <https://assignbuster.com/endocrine-system-essay-samples/>

production of these hormones is occasioned by the release of antibodies that mimic thyroid-stimulating hormones (TSH) leading to continued signal to the gland for the production of the hormones. TSH is not a thyroid hormone as it is produced in the brain by the pituitary glands and its production will remain low in the case of hyperthyroidism as the over production due to the false antibodies suppresses its release (Yadav 198). Regarding the occurrence of Graves' disease, Ellie's diagnosis is usual as the disease contraction diminishes at the age of 40. This shows that Ellie was in her prime age to contract the disease. The disease is also known to occur in women ten times as in men; women are also said to be vulnerable to the disease than men (Yadav 205). In controlling hyperthyroidism, propranolol was the first drug to be used and it blocks the beta adrenoceptor paralyzing nervous communication thus reducing the production of the thyroid glands (Yadav 213). Another way of controlling hyperthyroidism is surgical removal of the thyroid gland, this has the advantage of permanently giving a remedy to over production of the hormones but has the disadvantage that the role of the thyroid gland is inhibited completely.

Work Cited

Yadav, Manju. Mammalian Endocrinology. New Delhi: Discovery Publishing House, 2008. Print.