

IV. Diseases associated with the endocrine system

- A. **Panhypopituitarism** - a term that is associated with the deficiency of all pituitary hormones.
- B. **Dwarfism** - generally results from panhypopituitarism. Growth of different body parts are proportional, yet rate of growth is decreased such that a 10-year old individual may have a height similar to 4 to 5 year old.
- C. **Gigantism** - is a consequence of an excessive secretion of growth hormone from the pituitary gland, sometimes due to a tumor in the gland. People with this condition have a height of 7 feet or more, especially the bone.
- D. **Hypothyroidism** - the thyroid gland of people with this condition increases two to three times as compared with its normal size, and secretes hormones at a rate five to 15 times. People with this condition exhibit high level of excitability, increased weight loss, general muscle weakness, extreme fatigue, diarrhoea, nervousness, and tremor of hands.
- E. **Hypothyroidism** - could be a result of developmental defects. In this condition, antibodies that target the cells of the thyroid gland are produced. Extreme hypothyroidism during fetal, infancy and childhood leads to failure of growth and mental retardation, called cretinism.
- F. **Hypoadrenalism (Addison's Disease)** - results from the failure of the adrenal gland to secrete sufficient amounts of adrenal corticosteroids. General corticoid deficiency. Decline in cortisol release leads to higher concentration of ACTH, which stimulates melanocyte-stimulating hormone, thus increasing the amount of melanin. This explains the darkening of individuals with Addison's disease.
- G. **Hyperadrenalism** - also known as Cushing's syndrome, could be due to presence of cortisol-secreting tumor within the adrenal cortex or general overactivity of the adrenal cortices. People with this condition leads to mobilisation of fat from lower body to the thoracic area. Oedematous face, excess growth of facial hair (hirsutism) and moon face are observed.
- H. **Diabetes Mellitus** - results from diminished or lack of insulin by the beta cells of the Islets of Langerhans. This could also be due to destruction of the beta cells by viruses or development of autoimmune response. Diabetes mellitus is characterized by high blood sugar levels, and as a result, fat metabolism is activated in order to meet the energy requirements of the body. Excess glucose in the bloodstream is released through the urine. High glucose in urine a useful in diagnosis of diabetes.
- I. **Hyperparathyroidism** - is primarily due to presence of a tumor in the parathyroid glands, in which occur more frequently in women rather than men and cause increased bone resorption and higher probability of developing kidney stones due to calcification of the blood.