

MRS.DHANASUNDAI

LECTURER

ICON

INDIRANI COLLEGE OF NURSING

LEVEL OF STUDENT – P.B.BSc I yrs

HYPERTHYROIDISM

ENDOCRINE DISORDER

1) HYPERTHYROIDISM

a) Define hyperthyroidism

Hyperthyroidism (excessive **thyroid hormone**) is a condition in which there is an excessive amount of thyroid hormones. Thyroid hormones regulate the metabolism of the cells. Normally, the rate of thyroid hormone production is controlled by the brain from the **pituitary gland**, which is in turn regulated by the hypothalamus.

Epidemiology

- Incidence of Women 66.4% and 33.6% in men, 15% of cases occur in patients older than 60 years of age.
- In India, a large number of people suffer from thyroid disorders. Previous studies reveal that almost 42 million Indians suffer from thyroid disorders. Unfortunately, awareness about the disease is low. A recent study across 8 cities of India) revealed the prevalence of thyroid disorders in around 11 % of the urban population, with women being 3 times more prone to the disease than men.

b) List out the etiology, clinical manifestation, diagnostic findings

- Ectopic thyroid disease
- Grave's disease
- Multi-nodular disease
- Thyroid adenoma
- Subacute thyroiditis
- Ingestion of thyroid hormone
- Pituitary disease
- Ingestion of food containing thyroid hormone
- High dietary iodine intake or very low dietary intake.
- Genetic factor

Pathophysiology

- Hyperthyroidisms characterized by loss normal regulatory control of thyroid hormone secretion.
- The action of thyroid hormone on the body is stimulatory, hyper metabolism result
- Increase sympathetic nervous system activity
- Alteration secretion and metabolism of hypothalamic pituitary and gonadal hormone.
- Excessive amount of thyroid hormone stimulate the cardiac system and increase the adrenergic receptors.
- Tachycardia and increase cardiac –output, stroke volume and peripheral blood flow.
- Negative nitrogenous balance, lipid depletion and the resultant state of nutritional deficiency.

Hyperthyroidism result

Clinical manifestation

- Symptoms and their severity depend on duration and extent of thyroid hormone excess, and the age of the individual. Individuals may experience:
 - Nervousness and irritability
 - Palpitations and tachycardia
 - Heat intolerance or increased sweating
 - Tremor
 - Weight loss or gain
 - Increase in appetite
 - Frequent bowel movements or diarrhea
 - Lower leg swelling
 - Sudden paralysis
 - Shortness of breath with exertion
- Decreased menstrual flow

- Impaired fertility
- Sleep disturbances (including insomnia)

Changes in vision

- Photophobia, or light sensitivity
- Eye irritation with excess tears
- Diplopia, or double vision
- Exophthalmos, or forward protrusion of the eyeball
- Fatigue and muscle weakness
- Thyroid enlargement
- Pretibial myxedema (fluid buildup in the tissues about the shin bone; may be seen with Grave's disease)

INVESTIGATION

- History and physical examination
- Ophthalmic examination
- ECG- atrial tachycardia
- Thyroid function test: T3 and T4
- Thyroid releasing hormone stimulation test
- Radioactive iodine uptake (RAIU)
- Thyroid scan

c) Explain the management of hyperthyroidism

1. Radioactive iodine

- Taken by mouth, radioactive iodine is absorbed by your thyroid gland, where it causes the gland to shrink and symptoms to subside, usually within three to six months

2. Anti-thyroid medications

- These medications gradually reduce symptoms of hyperthyroidism by preventing your thyroid gland from producing excess amounts of hormones. They include propylthiouracil and methimazole (Tapazole).
- Symptoms usually begin to improve in 6 to 12 weeks, but treatment with anti-thyroid medications typically continues at least a year and often longer.

3. Beta blockers

- These drugs are commonly used to treat high blood pressure. They won't reduce your thyroid levels, but they can reduce a rapid heart rate and help prevent palpitations. Side effects may include fatigue, headache, upset stomach, constipation, diarrhea or dizziness.

Surgical management

- Surgical Treatment of Thyroid Disease General Several surgical options exist for treating thyroid disease and the choice of procedure depends on two main factors.
- The first is the type and extent of thyroid disease present.
- The second is the anatomy of the thyroid gland itself. The most commonly performed procedures include: lobectomy, lobectomy with isthmectomy, subtotal thyroidectomy, and total thyroidectomy.

Nursing management

1. Imbalanced nutrition less than body requirement related to anorexia and increase metabolic demand is inappropriate.

Intervention:

- High calorie diet (4000-5000 kcal/day)
- High protein diet (1-2 g/kg of ideal body weight)
- Frequent meals

2. Activity intolerance related to exhaustion secondary to accelerated metabolic rate resulting in inability to perform activity without shortness of breath and significant increased in heart rate

Intervention:

- Assist with regular physical activity.
- Assist in activities of daily living
- Assist the patient to schedule rest periods

3. Risk for injury: corneal ulceration, infection and not possible blindness related inability to close the eye lids secondary to exophthalmos.

4. Hyperthermia related to accelerated metabolic rate resulting in fever, diaphoresis and reported heat intolerance.

5. Impaired social interaction related to extreme agitation, hyperactivity, and mood swings resulting in inability to relate effectively with others

References

- Lewis et al, Medical Surgical Nursing, Mosby Elsevier, 7th edition. Wolters

- kliwer,Lippincott nursing procedure, seventh edition published bylippincottwilians and wikins
- Sandhyaghai, clinical nursing procedure,published by CBS publishers and distributors pvt.Ltd, new delhi,
- Joyce.M.Black et al, Medical Surgical Nursing, Saunders publication.
- Brunner and Siddhartha, Medical Surgical Nursing, Lippincott Williams and Wilkins.