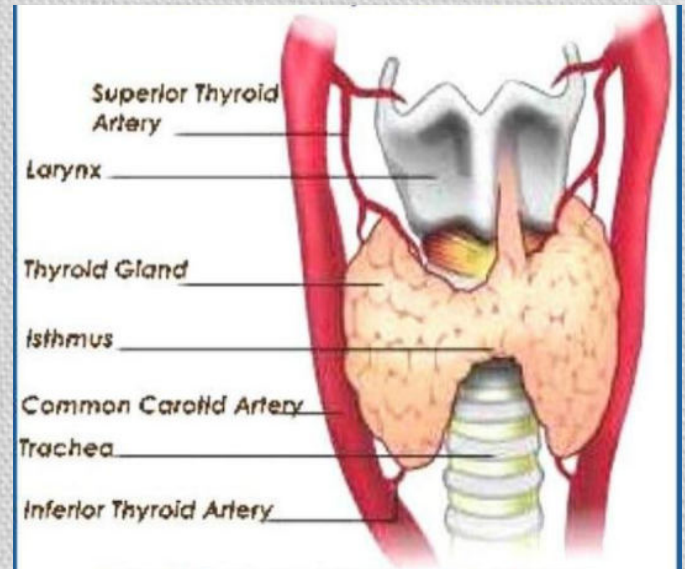


GOITRE



Definition

Swelling in the thyroid gland

Endemic



Classification

Simple goitre

- ❖ Diffuse-physiological, pubertal, pregnancy
- ❖ Multinodular

Toxic goitre

- ❖ Diffuse eg. Graves' disease
- ❖ Multinodular
- ❖ Toxic adenoma

Nontoxic goitre -caused by lithium or other autoimmune diseases

Paradoxical goiter -enlarged thyroid as a result of very high intakes of iodine

Occurs in Japan and China with high intake of seaweed (50,000 - 80,000 mg/day)

Other classification

I -palpation struma - in normal posture of head it cannot be seen,only on palpation

II-struma is palpative and can be easily seen

III-struma is very big and is retrosternal. Pressure and compression marks

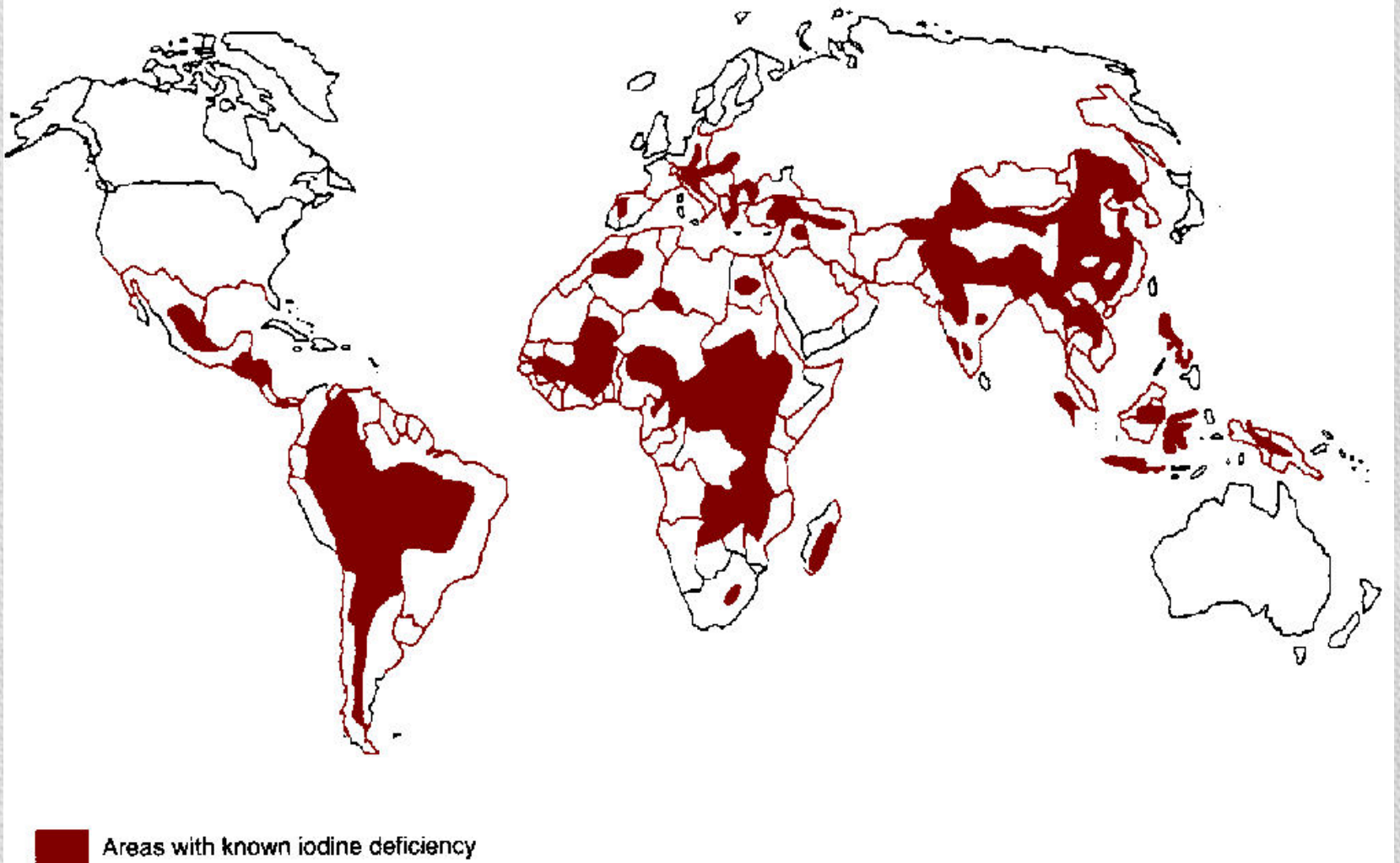
Incidence

Daily iodine requirement= 0.1- 0.15mg

Endemic goitre occur in geographical areas with iodine-depleted soil, usually regions away from the sea coast

Common in central Asia and central Africa ,certain areas of Australia, including Tasmania and areas along the Great Dividing Range

Goitre Belt



Etiology

➤ MC- iodine deficiency

In countries that use iodized salt, Hashimoto's thyroiditis becomes the most common cause

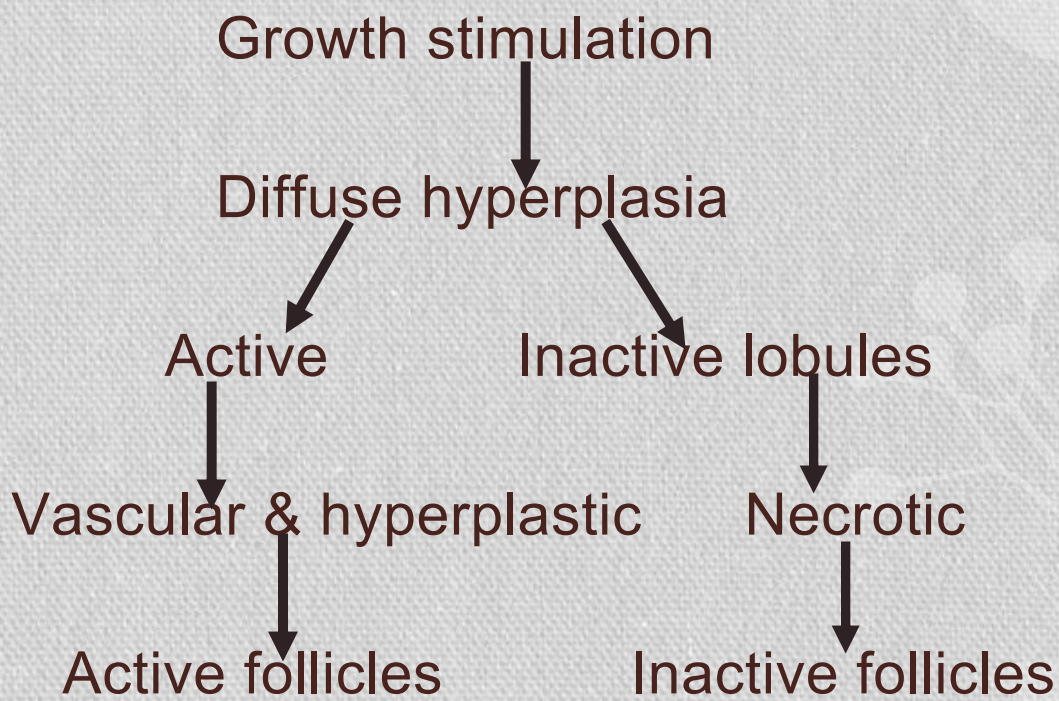
➤ Hypothyroid

- ❖ Congenital hypothyroidism
- ❖ Ingestion of goitrogens such as cassava
- ❖ Side-effects of pharmacological therapy

➤ Hyperthyroid

- ❖ Graves' disease
- ❖ Thyroiditis (acute or chronic)
- ❖ Thyroid cancer

Natural History



Symptoms

- Without any hormonal abnormalities, no symptoms
- Anterior neck mass
- Large masses compression of the local structure
- Difficulty in breathing /swallowing

- Toxic goitres present with symptoms such as palpitations, hyperactivity, weight loss despite increased appetite, and heat intolerance



Tracheal Compression



Diagnosis

- Thyroid function test
- Chest X ray
- Ultrasound /CT Scan
- Needle Aspiration / Needle Biopsy

Treatment

- Antithyroid Medications: Propylthiouracil and Methimazole
- I-131
- Surgical Therapy

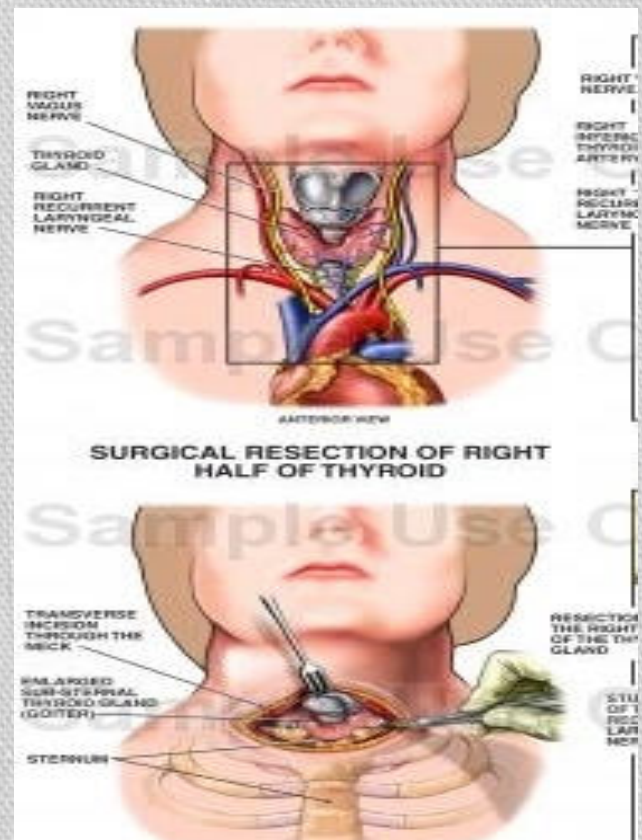
Indications

- Cosmetic
- Pressure symptoms
- Patient anxiety

Types of thyroidectomy

All thyroid surgeries can be assembled from three basic elements

- Total lobectomy
- Isthmusectomy
- Subtotal lobectomy



Total thyroidectomy=

2 x total lobectomy+ Isthmusectomy

Subtotal thyroidectomy=

2 x subtotal lobectomy+ Isthmusectomy

Near-total thyroidectomy=

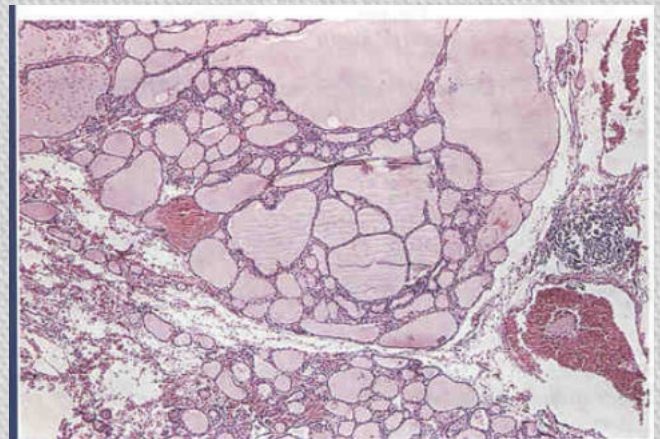
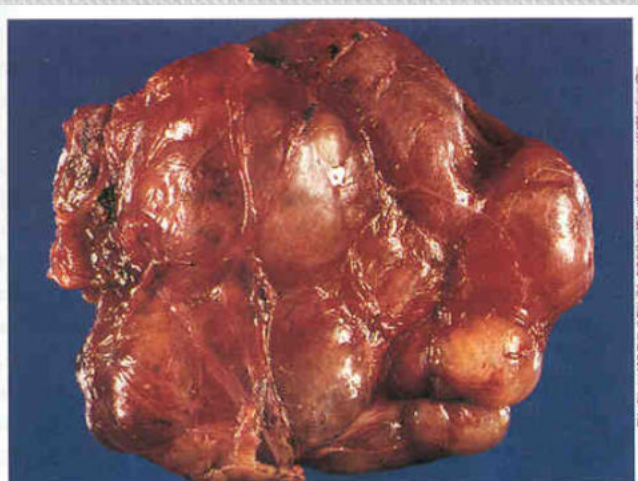
total lobectomy+ subtotal lobectomy+ Isthmusectomy

Lobectomy= total lobectomy+ Isthmusectomy

Steps of Thyroidectomy

- **Exposure**-horizontal neck incision, +/- raising of flaps, +/- division of strap muscles
- **Identification of structures** -Recurrent and ext. branch of superior laryngeal nerve, parathyroid glands
- **Devascularisation**
 - ❖ Superior thyroid artery
 - ❖ Inferior thyroid artery while protecting the supply to the parathyroids
 - ❖ Thyroid ima if present
- **Resection**
- **Exploration of other pathology**
- **Closure**

Gross and Microscopic Pathology Multinodular Goiter



Potential complications after thyroid surgery

➤ Laryngeal Nerve Injury

➤ Parathyroid Deficit

➤ Postoperative Bleeding

➤ Infrequent Postoperative Complications

- ❖ Sympathetic nerve injury- results in the development of *Horner's syndrome*
- ❖ Chylous fistula- damage to the thoracic duct
- ❖ Thyroid storm-resulting from hyperactivity of the thyroid gland

hypoparathyroidism

Symptoms

- ❖ Tingling in the lips, fingers, and toes
- ❖ Dry hair, brittle nails, and dry, coarse skin
- ❖ Muscle cramps
- ❖ Loss of memory
- ❖ Headaches
- ❖ Severe muscle spasms (also called tetany)
- ❖ Convulsions

Treatment

- ❖ Calcium carbonate
- ❖ Vitamin D supplements

- After sub total resection thyroxine is given to suppress TSH secretion
- Radioactive iodine may reduce size of recurrent nodular goitre

Prevention

- Introduction of Iodized salts
- Avoidance of goitrogens (cabbage, turnips, peanuts, soybeans)
- In early (Hyperplastic) stage thyroxine 0.15-0.2mg
- Most multinodular goitre are asymptomatic and do not require surgery