



Benign Lesions of The Thyroid

Hyperplasia of Thyroid

Enlargement of thyroid gland

most commonly due to dietary iodine deficiency
 compensatory rise in TSH secretion by pituitary
 hypertrophy & hyperplasia of thyroid follicles
 due to impaired thyroid hormone synthesis
 Hyperplasia regresses with sufficient iodine intake/ decreased stimulus to thyroid growth
 peak incidence during puberty & young adulthood
 more common in females
 high requirement for thyroid hormone
 In Puberty, Pregnancy, and Lactation

Diffuse Nontoxic Goitre (Simple Goitre)

brown, glass & translucent
 diffuse symmetrical enlargement of thyroid
 may pile up and form projections similar to those in Graves
 follicles lined by crowded columnar cells
 enlarged, colloid-filled gland
 colloid is abundant during latter periods of disease
 involutes to form Colloid Goitre when thyroid stimulation decreases
 due to chronic, recurrent episodes of stimulation & involution of thyroid growth

Multinodular Goitre

irregular enlargement of thyroid
 may also be related to differential abilities of normal thyroid epithelium to replicate in response to TSH
 brown, gelatinous colloid found in nodules
 multi-lobulated, assymmetrically-enlarged glands
 follicular epithelial hypertrophy & hyperplasia
 histology
 fibrosis, hemorrhage, calcification, cystic changes
 regressive changes
 common in older lesions
 Neck mass
 may lead to airway obstruction, dysphagia, compression of large vessels in the neck

Clinical Features

in minority of goitres
 due to hyperfunctioning thyroid nodule found within goitre
 Hyperthyroidism (Plummer's Syndrome)
 hyperthyroidism without ophthalmopathy & dermopathy seen in Graves

Benign Follicular Adenoma

Morphology

solitary spherical lesion compressing on non-neoplastic thyroid
 well-demarcated by well-formed capsule
 contains colloid
 cells are uniform with well-defined cell borders
 Hurtle cell
 variant of follicular adenoma
 similar clinically to follicular adenoma
 cells acquire brightly eosinophilic & granular cytoplasm
 sign of metaplastic change

Histology

Careful evaluation of capsule is critical
 papillary change should suggest suspicion of encapsulated papillary carcinoma
 rarely has papillary change

Toxic Adenoma

rare variety of benign adenoma that produce thyroid hormone autonomously
 hormone production independent of TSH stimulation
 causes clinical thyrotoxicosis
 cells contain mutations of TSH receptor genes
 cause receptors to be persistently turned on
 continuous thyroid hormone production & hyperthyroidism even in absence of TSH

Clinical Features

painless nodule
 often discovered on routine examination
 large masses may cause difficulty in swallowing
 thyrotoxicosis
 takes up more iodine than normal tissue
 hot nodules on radionuclide scanning
 malignancy almost non-existent in hot nodules
 Adenomas take up less iodine than normal tissue
 cold nodules on radionuclide scanning
 but 10% of cold nodules eventually prove to be malignant
 Does not undergo malignant change
 however, distinction b/w follicular adenoma & follicular carcinoma can only be made pathologically after resection