Clinical description:

A 62 year old woman presented with thyroid enlargement. Total thyroidectomy was done.

Diagnosis:

Multinodular goiter with adipose metaplasia

Discussion:

Multinodular goiter is a common condition characterized by enlargement of thyroid gland with nodularity. It occurs on a sporadic or endemic basis with comparable histomorphology. The proliferation potential of follicular cells to low TSH and resulting hyperplasia of follicular cells at one or more foci is the basis for nodule formation. It is accentuated by fibrosis in response to hemorrhage and necrosis.

Multinodular goiter usually manifests clinically as thyroid enlargement with compressive symptoms. Early cases may lack distinct nodularity. Nodules may be few to many, of variable sizes, with secondary changes such as stromal fibrosis with calcification, hemorrhage and cystic degeneration.

Microscopically, nodules can be colloid rich or follicle rich. Follicles are lined by flattened to cuboidal epithelium. Metaplastic changes can occur in the forms of squamous metaplasia, oncocytic (oxyphilic) metaplasia and osseous metaplasia. Adipose metaplasia in a nodular goiter is a rare phenomenon although reported in wide range of conditions such as adenolipoma (thyrolipoma), thyrolipomatosis, amyloid goiter, follicular adenoma and papillary carcinoma. Multiple theories have been proposed such as embryogenic rests, metaplastic change from stromal fibroblasts, senile involution or prolonged degenerative changes secondary to local hypoxia. However histogenesis remains uncertain (Pathology 2016;48).