

**CASE REPORT**

**Papillary Microcarcinoma in Multinodular Goiter with Lymphocytic Thyroiditis**

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**Abstract:**

Multi nodular goitre (MNG) is one of the common presentations of various thyroid diseases. Hitherto issue is whether MNG is significantly associated with malignancy. Various studies have reported a 7 to 17% incidence of malignancy in MNG; most common documented is papillary carcinoma. Here we present a case of 40 year old woman with complains of neck swelling, since 10 months. No history of hypertension and other endocrine disorders.

The laboratory investigation shows subclinical hyperthyroidism. Ultrasonography (USG) of anterior neck showed a hypoechoic nodule at right lobe. Cytological diagnosis of colloid goitre was made and hemithyroidectomy was performed and specimen sent for histopathology. The case on histopathology was diagnosed as papillary microcarcinoma in multinodular goiter with lymphocytic thyroiditis which was further confirmed by immunohistochemistry. Recent studies have suggested that the micro-carcinomas classically progress to a clinically evident disease if left untreated. The treatment of papillary microcarcinoma should be similar to papillary thyroid cancer.

**Keywords:** Multi Nodular Goitre, Papillary microcarcinoma Carcinoma, Lymphocytic Thyroiditis

**Introduction:**

Multi nodular goitre (MNG) is one of the common presentations of various thyroid diseases. However, various studies have reported a 7 to 17% incidence of malignancy in MNG. The most common variety of malignancy which has been documented in the literature is papillary carcinoma [1]. The World Health Organization has defined as a papillary thyroid carcinoma which measures  $\leq 10$  mm in the greatest dimension [2].

**Case Report:**

A 40 year old woman came with complaints of anterior neck swelling since 10 months, with gradual increase in size. She had no history of hypertension and any other endocrine disorders. The laboratory investigation shows subclinical hyperthyroidism ; TSH – 0.012 $\mu$ IU/mL (0.4-4.2 $\mu$ IU/mL), FT3 -310 pg/dL (260-480pg/dL) FT4 -1.36 ng/dL (0.8-1.5ng/dL). On examination ill defined swelling 5x4 cm, with prominent nodule was palpated on right side of neck. The thyroid USG showed a hypoechoic nodule at right lobe and left lobe was normal. Right hemithyroidectomy was done and specimen sent to histopathology.

Grossly excised thyroid was measuring 6x4x3cms, on cut section small pale brown

nodule measuring 2x1cms , with few tiny pale white nodules were noted (Fig. 1).

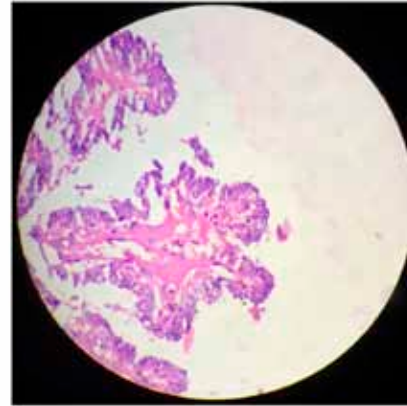
Microscopically thyroid tissue showed the features of multinodular goiter with lymphocytic thyroiditis in (Fig. 2) and unifocal area (9mm) of papillary carcinoma features in (Fig. 3).



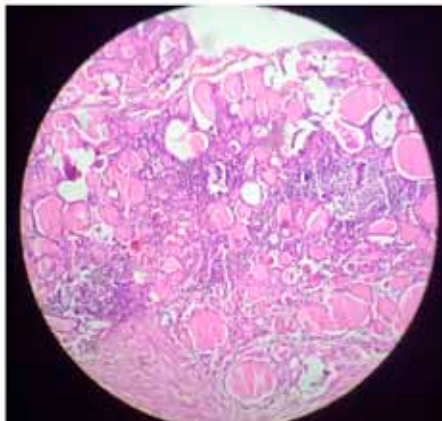
**Fig.1: Cut Section of Thyroid Tissue with Focal Areas of Firm Pale Tissue**

IHC was done to confirm papillary carcinoma which came positive in (Fig. 4).

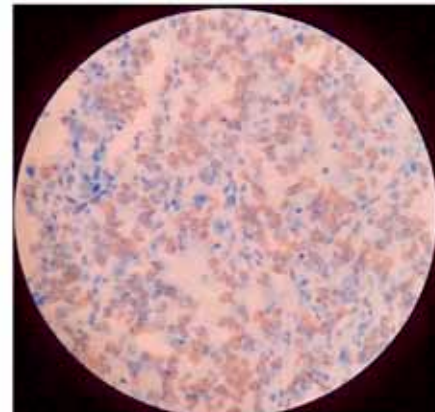
Case was diagnosed as papillary microcarcinoma in multinodular goiter with lymphocytic thyroiditis.



**Fig 3: 400X H&E stain: Microscopy shows Papillary Folding with Nuclear Changes Suggesting Papillary Cancer**



**Fig.2: 100X H & E stain: Microscopy shows Various Sized Follicles with Lymphoid Follicles Intervening**



**Fig 4: 400X H&E stain: Microscopy shows IHC Positive for TTF-1**

**Discussion:**

Multi Nodular Goitre (MNG) is one of the common presentations of various thyroid diseases. Thyroid nodules have been reported to be found in 4% to 7% of the population on neck palpation and in 30% to 50% of the population by Ultrasonography (USG) [1]. A long standing and hitherto unresolved issue is whether MNG is significantly associated with malignancy. MNG had been traditionally thought to be at a low risk for malignancy as compared to a solitary nodule thyroid [1, 2].

The incidence of the thyroid malignancy ranges from 0.9% to 13% in different parts of world. However only 2.92% of patients presenting with goitre were found to be suffering from thyroid malignancy [4]. Such an incidence increases further if cases of occult carcinoma are also taken into consideration. The exposure to ionizing radiation and the availability of more sensitive diagnostic tests may be the possible explanations for a worldwide increase in the incidence of thyroid carcinoma [1].

A study which was conducted by Benzarti *et al* in Tunis have found a 9.5% incidence of malignancy in MNG, whereas Sarajevo have reported an 8% incidence of malignancy in MNG in his study. Prades *et. al* from France, however, have reported quite a high incidence i.e. 12.2% [2-4].

A thyroid nodule should be viewed with suspicion if it is of recent origin, firm, fixed, irregular in shape and increasing in size rapidly. More over patients with family history, or history of neck irradiation, hoarseness of voice, accompanied

with lymphadenopathy and development of rapidly enlarging nodule in very young (<15 yrs) or old (>65 yrs) patient should also be viewed with suspicion [5].

The World Health Organization has defined as a papillary thyroid carcinoma which measures  $\leq 10$  mm in the greatest dimension. Recent studies have suggested that the micro-carcinomas classically progress to a clinically evident disease if they are left untreated. The treatment of papillary microcarcinoma should be similar to that of papillary thyroid cancer [2]. The papillary excrescences can be seen in involuting nodules, hyperplastic nodules and in papillary carcinoma but in the carcinoma the papillae are randomly distributed. Lymphocytic infiltration is often seen focal without forming follicles in involuting nodules and extensively seen admist with plasma cells in papillary carcinoma at the infiltrating edges of tumour. Whether the lymphocytes represent an immunological response is unclear. However if the thyroiditis is seen solely in the vicinity of the tumour with sparing of the uninvolved gland, then the possibility of a predisposing condition may be considered [4].

High-frequency, real-time ultrasonography and fine-needle aspiration cytology (FNAC) are the indispensable tools which are used in the pre-operative evaluation of MNG for malignant foci. The important sonographic findings which are suggestive of malignancy in the thyroid nodules are micro-calcifications (which are present in about 22% of the thyroid cancers), irregular

margins of the nodules, a complex echogenicity and smaller nodules. It has been postulated that the thyroid cancers would have manifested with more overt signs and symptoms of local invasion or metastasis by the time they had reached a significant size [6].

**Conclusion:**

So, the risk of malignancy in multi-nodular goitre is not as low as it was thought before and that it is quite significant. Due to the risk of occult malignancy, all the patients with multi-nodular goitre who have been treated conservatively need a close follow up for malignancy.

**References**

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