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CASE REPORT

An Unusual Variant of Medullary Carcinoma of Thyroid – A Case Report

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Abstract: A 32 years old female presented with midline swelling of neck since 10 years, FNAC of Neck mass was done and diagnosed as Malignant Thyroid neoplasm. On histopathological Examination it was diagnosed as Medullary carcinoma of thyroid - Papillary variant and diagnosis was confirmed by Immunohistochemistry. We report this rare variant of Medullary carcinoma of thyroid.
Keywords: Medullary carcinoma of thyroid, Midline swelling and Papillary variant.

Introduction

Medullary carcinoma of thyroid is a rare calcitonin-producing neuroendocrine tumor, which accounts for less than 10% of all the thyroid carcinomas**.** Majority of Medullary thyroid carcinoma are sporadic and about 10 to 20% are familial, commonly seen in the age group of adult i.e 50 years and in familial cases the age group tends to be younger, more commonly in females. Most of patients present with a painless thyroid nodules usually occur in the area of highest C-Cell Concentration. It shows various pattern of cellular and stromal element and having several variants like Papillary, Pseudopapillary, Follicular, Clear cell variant etc [1].

Case History

A 32 years old female presented with midline swelling of neck since 10 years and Palpitation since one month. On examination, a swelling moves with deglutition, involving the both lobes, more on right side. Her mother has similar complaints. *FNAC* of Neck mass was suggestive of Malignant Thyroid neoplasm. Near total Thyroidectomy was done and specimen sent for HPE.

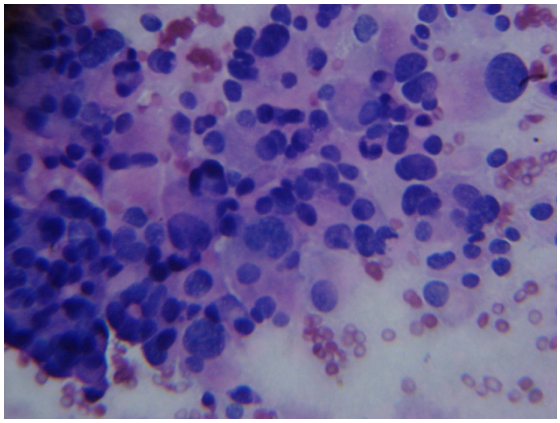

Fig-1: (H&E-45X) FNAC - suggestive of Malignant Thyroid neoplasm.

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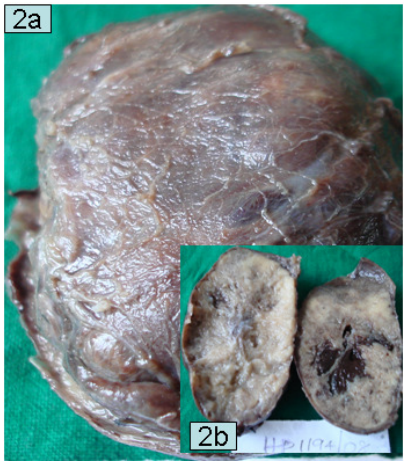

Gross: The specimen consists of two encapsulated, well circumscribed masses, measuring 6x 4x3cm & 3 x 1 cm in size with grayish brown in color. Cut surface - glistening brown areas with grey white solid tumor.

Fig-2a: Gross–Encapsulated, well circumscribed masses, measuring 6x 4x3cm & 3 x 1 cm in size with grayish brown in color.

Inset-2b: Cut surface -showed glistening areas with homogenous white appearance.

On Microscopy: Tumor is composed of papillary architecture, lined by single layer of neoplastic cells with small regular nuclei containing condensed chromatin with finely granular cytoplasm. Some areas show optically clear nuclei. The stroma shows acellular, homogenous, eosinophilic material.

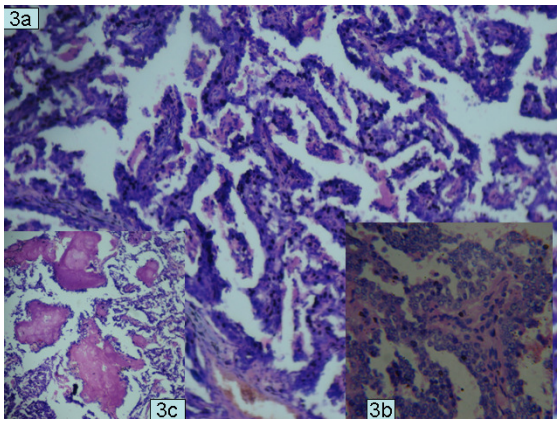

Fig-3a: (H&E - 10x) Tumor composed of papillary architecture, lined by single layer of neoplastic cells

Inset-3b: (H&E-40x) Cells with small and regular nuclei containing condensed chromatin. Cells show optically clear nuclei.

Inset-3c: (H&E-40x) The stroma shows acellular homogenous eosinophilic material.

On MRI Scan - other organs are normal. Postoperatively biochemical test was done and showed increased calcitonin level. Serum Calcium, Serum Phosphate and Serum Alkaline phosphatase are normal. Histochemistry was done for Amyloid in stroma which shows Congo Red stain Positive. Immunohistochemistry was done for confirmation, Tumor cells were positive for chromogranin A, Synaptophysin and Calcitonin. Thyroglobulin is Negative.

Discussion

About 4% -7% of the population has nodular thyroid disease. Approximately, 4% of these nodules are malignant and account for about 1% of all cancers. The incidence of thyroid nodules in females to male is 6.5% to 1.5%. However, the risk of being malignant thyroid nodules is twice as high in male as compare to females.

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Thyroid cancer develops most commonly between the ages of 40 to 60. Thyroid cancers are classified by their predominant histological cell types, as follows: 1) Well-differentiated malignant neoplasm accounts for 85% of thyroid cancers, including Papillary, follicular and Hurthle cell carcinomas and 2) More aggressive variants include Medullary Carcinoma and anaplastic carcinoma 3) Other tumors including lymphomas and metastatic tumors.

The recognition of the pathological features of Medullary Carcinoma by Horn [2] and Hazzard et al [3] in the 1950s and demonstrated that is derived from the calcitonin producing parafollicular cells [4-5] allowed the distinction of such a tumor type from the more common follicular cells.

70% - 80% of Medullary thyroid Carcinoma are sporadic, most of them are unilateral and 20% - 30% are bilateral. During the last few years, the spectrum of histological features seen in terms of C–cell origin has broadened and papillary and anaplastic forms have been reported. Many other authors are also reported various variants of Medullary thyroid Carcinoma but the true Papillary variant is extremely rare. Overall prognosis of Medullary thyroid Carcinoma is poor due to early metastasis to lymphnodes and distant metastasis [6-7].

Conclusion

Thyroid carcinomas should be classified according to their major immunoreactivity pattern rather than their morphologic pattern. Immunohistochemical and/or histochemical studies should be performed in all thyroid tumors that show unusual histological features. This case is presented for its rare histological variant.

References

1. Balou ZW, Livosi VA. Pathology of Thyroid and Parathyroid Disease: Mills S.E, Carter D, Greensan J.K, Obermen H.A, Reuter V, Stoler M.H; Sternberg's Diagnostic Surgical pathology, 4th Ed.Vol – I. Lippincott Williams and Wilkins, 2004;557-603.
2. Horn RC. Carcinoma of the thyroid. Description of a distinctive morphological variant and report of 7 cases. *Cancer* 1951; 4: 697-707.
3. Hazard JB, Hawks WA, Crile G,Jr: Medullary (Solid) Carcinoma of the thyroid: a clinicopathologic entity. *J Clin Endocrinol Metab* 1959; 19: 152-161.
4. Williams ED. Histogenesis of Medullary carcinoma of the thyroid. *J Clin Pathol* 1966; 19:114-118.
5. Chan JKC. Tumours of the Thyroid and Parathyroid Glands. Fletcher C.D.M; Diagnostic Histopathology of tumors, 3rd Edition. Vol- II Churchil Livingstone, 2007; 997-1063.
6. Krisch K, Krisch I, Horvat G, Neuhold N, Ulrich W, Srikanta S. The value of IHC in Medullary thyroid carcinoma. A systemic stydy of 30 cases. *Histopathology* 1985; 9: 1077-1089.
7. Harach.HR. Williams.ED. Glandular (Tubular and follicular) Variants of Medullary carcinoma of thyroid. *Histopathology* 2007; 7(1): 83-97.

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