Title: Primary Medullary Thyroid Carcinoma-A Case Report

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INTRODUCTION

Medullary thyroid carcinoma is an uncommon primary thyroid tumour (5-10% of all thyroid malignancies) arising from parafollicular cells or C-cells and are neuroendocrine in origin. Most tumours are sporadic (75-80%) and familial syndrome multiple endocrine neoplasia; MEN-2A, MEN-2B and familial MTC in 20 to 25% cases.

CASE REPORT

We report a case of primary medullary thyroid carcinoma in a 30 years old male patient presented with complaint of midline neck swelling. It was firm, mobile on deglutition, non-tender and their was no history of trauma. On gross hemi-thyroidectomy specimen measuring 4.0x3.5x3.0 cm. Cut surface shows haemorrhagic areas.

RESULT

On FNAC, smear revealed clusters as well as singly line plump oval to spindle in a hemorrhagic background, cells show abrupt pleomorphism with occasional bi-nucleate form. Diagnosis of medullary carcinoma was suggested with a differential of SETTLE (spindle epithelial tumor with thymus like differentiation) (Fig-1). The swelling was excised and send for histopathological examination (fig-2) which revealed tumor cells, arranged in lobules separated by fibrous septa. Cells were polygonal to plump spindle shaped having abundant eosinophilic granular cytoplasm with round to oval nuclei, finely stippled nuclear chromatin and indistinct nucleoli, positive for amyloid stain and diagnosed as primary medullary thyroid carcinoma(Fig-3). IHC was positive for calcitonin, chromogranin & Synaptophysin (Fig-4,5 & 6).

CYTOPATHOLOGY

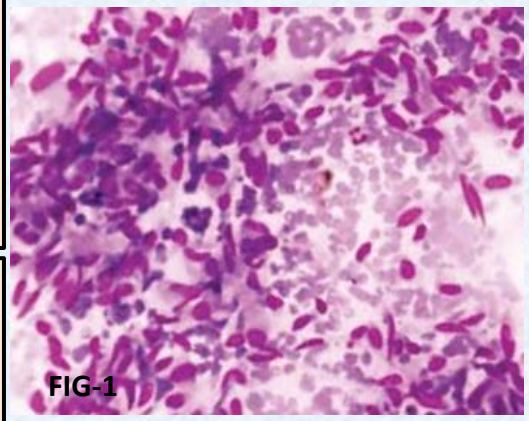

FIG-1

GROSS

FIG-2

HISTOPATHOLOGY

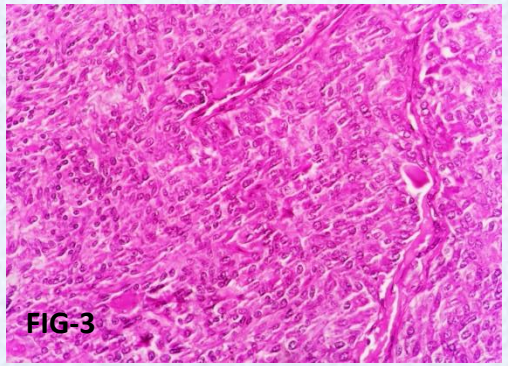

FIG-3

IMMUNOHISTOCHEMISTRY

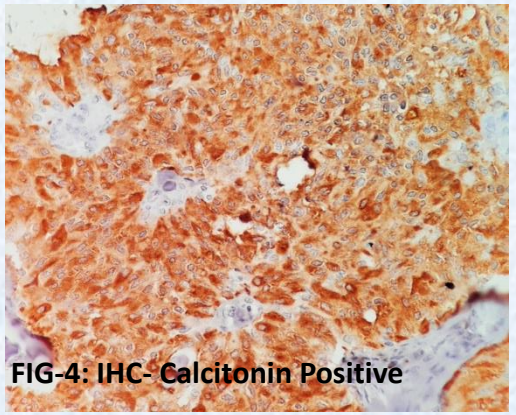

FIG-4: IHC- Calcitonin Positive

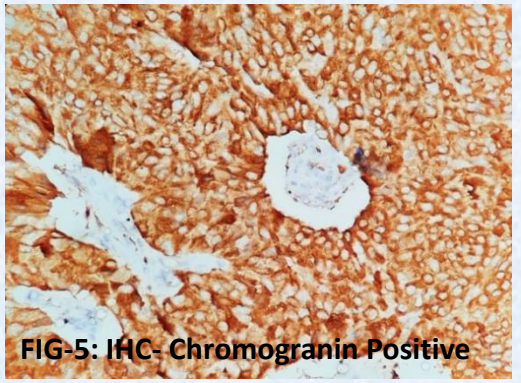

FIG-5: IHC- Chromogranin Positive

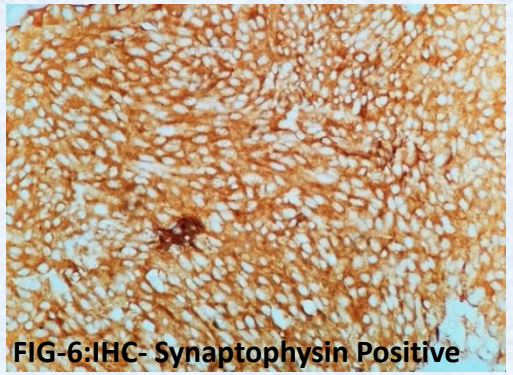

FIG-6:IHC- Synaptophysin Positive

DISCUSSION

Medullary thyroid carcinoma produce calcitonin as well as other secretory products such as CEA, ACTH, chromogranin and synaptophysin. Preoperative calcitonin levels may correlate with tumour size in both sporadic and familial cases of MTC and had a prognostic significance. MTC is characterized by the expression of CK, calcitonin, and CEA.

CONCLUSION

Apart from the classic plasmacytoid cell pattern, the neoplastic cells may resemble spindle cells or small cells with scant cytoplasm and nuclear moulding. MTC is the first human malignancy known to be associated with tumour marker, the hormone calcitonin. Despite a high rate of metastasis to lymph node, 5yrs & 10yrs survival rates of MTC are 78-91% and 61-75% respectively.

REFERENCE

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2. Mehdi G, Maheshwari V, Ansari HA, Sadaf L. et al. FNAC diagnosis of medullary carcinoma thyroid: A report of three cases with review of literature. J Cytol. 2010; 27(2): 66-68.