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RESEARCH ARTICLE

HYALINIZINGTRABECULARNEOPLASMOFTHYROID-ARARECASE REPORT

Samriti Goyal, Kanwardeep Kaur, Mohanvir Kaur, Vijay Kumar Bodal and Arpita Kumar
DepartmentofPathology,GovernmentMedicalCollegeandhospital,Patiala,Punjab,India.

Corresponding Author:- Dr. Mohanvir Kaur
Address:- Associate Professor Department of Pathology, Government Medical College and Hospital, Patiala, Punjab, India.

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Abstract

Introduction: Hyalinising trabecular neoplasm of thyroid is a benign neoplasm of follicular origin and is characterized by trabecular pattern of growth and interspersed hyalinization. It accounts for less than 1% of thyroid neoplasms with a female preponderance.[1] It is also a neoplasm with a low diagnostic accuracy (6%) due to limited literature on its distinguishing features and unreliable ancillary tests[2] . In this case report we review the cytological features of HTN and correlate them with the histopathologic findings.

CaseReport: This case report presents a rare case of hyalinising trabecular neoplasm of thyroid in a 42 year old female. The patient complained of swelling on left side of neck for 6 months and ultrasound report showed presence of isolated lobule with cystic degeneration. Fine needle aspiration of the swelling characterized it as atypia of undetermined significance. Histopathologic examination of excised thyroid lobe confirmed the diagnosis of follicular neoplasm favouring hyalinising trabecular neoplasm of thyroid gland.

Conclusion: Hyalinising trabecular neoplasm of thyroid is a benign neoplasm of thyroid that poses a great diagnostic challenge. Along with its low incidence and asymptomatic clinical presentation they are misdiagnosed in intermediate Bethesda categories. This case report highlights the various cytological and histopathologic findings of HTN.

Introduction:-

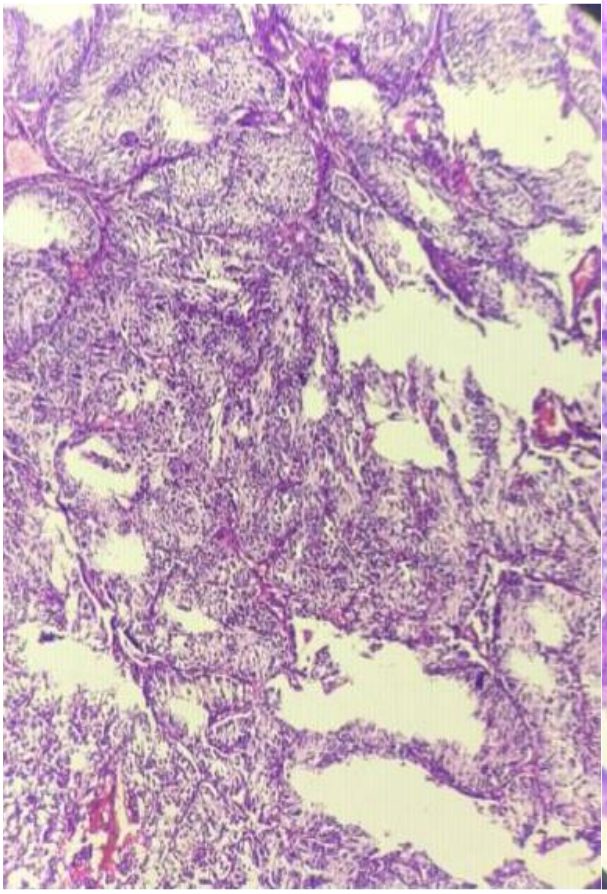
Hyalinising trabecular neoplasm of thyroid is a rare, benign neoplasm of thyroid of follicular origin that shows trabecular arrangement of cells similar to papillary thyroid cancer, however, they are most commonly encapsulated with almost no lymphovascular invasion.[3]Most patients are asymptomatic with normal thyroid function tests but due to their misdiagnosis on cytology and histopathology as aggressive neoplasms, patients receive radical treatments in the form of hemithyroidectomy. Ultrasound is non specific and unreliable with small sized lesions often being misdiagnosed. [4] After fine needle aspiration, cytological examination usually reveals isolated cells or clustered group of cells showing nuclear grooving and pseudoinclusions with or without presence of colloid. [5]Histopathologic examination reveals a well encapsulated or circumscribed lesion with microscopy revealing presence of polygonal cells in a trabecular growth pattern in the background of peritrabecular and intratrabecular hyaline material. Individual cells may also contain paranuclear yellow bodies that are of undetermined significance.[6] However these characteristics often overlap with other neoplasms of thyroid, making its diagnosis elusive.

Casereport:-

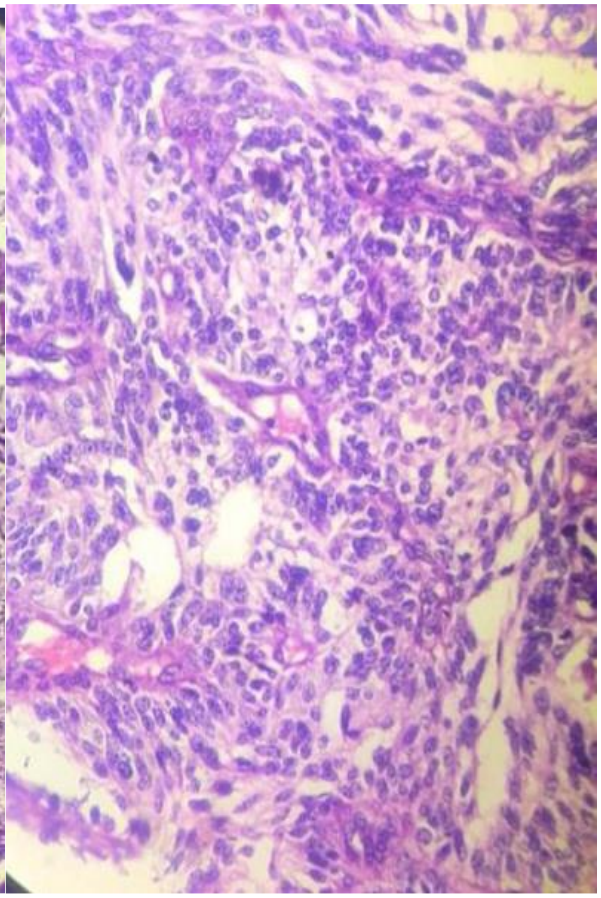
We present a case of a 42 year old female with complaints of asymptomatic swelling on left side of neck for 6 months. Sonography revealed presence of lobule in left lobe of thyroid along with features of cystic degeneration. Fine needle aspiration of the swelling was done and cytological examination of the swelling showed presence of follicular epithelial cells lying in cohesive sheets, sycitium, small aggregates and lying singly with focal colloid collection. The cells in syncytium had a wisp of pale cytoplasm. Single cells showed lateralisation with round to oval nuclei and prominent nucleoli. Following this, patient underwent left hemithyroidectomy and the excised lobe was assessed histopathologically. Grossly the specimen had a nodular external surface and cut section revealed presence of homogenous well defined encapsulated cyst measuring 1x 0.6cm (figure-1) .

(figure-1)

Microscopic examination showed encapsulated thyroid tumor tissue arranged in the form of trabeculae (figure-2) as well as lobules separated by fibrous septae exhibiting hyalinisation at places. These trabeculae were lined by round to oval polyhedral cells with oval to elongated nuclei exhibiting fine chromatin and eosinophilic cytoplasm (figure-3) along with focal nuclear clearing. Some of the spaces contained eosinophilic secretions. Occasional mitotic activity was also noted.



(figure-2)



(figure-3)

Discussion:- The identifcation of HTN on resected thyroid specimens usually requires distinction from morphologically similar neoplasms such as papillary and medullary thyroid neoplasms. The closest differential, in its cytologic and histopathologic diagnosis is papillary thyroid neoplasm due to similar papillary architecture and intracytoplasmic inclusions. The presence of a prominent papillary growth pattern(which cannot be distinguished solely on cytology), occasional psammoma bodies, nuclear grooves and pseudoinclusions would favor PTC. Some cases may also show an isolated population of spindle cells in the background of amyloid material, steering our diagnosis towards MTC. Spindle cells and hyaline stroma however is seen in follicular adenoma of thyroid, thus prompting the role of immunohistochemistry in such cases.
Poorly differentiated or anaplastic carcinomas are easily ruled out due to presence of capsule and absence of nuclear changes. This 'organoid' nature may however lead us to misdiagnosis HTN as paraganglioma-like adenoma", another rare neoplasm of thyroid. Some cases of HTN may coexist with chronic lymphocytic thyroiditis[7]

Conclusion:-

In summary, we realised that hyalinising trabecular neoplasm of thyroid poses a great diagnostic challenge and misdiagnosis can lead to radical surgical management with increased morbidity and mortality. This report highlights the importance of clinician awareness to consider the full spectrum of thyroid neoplasms to judiciously use Bethesda categories in cytology and correlate with histopathologic findings.

Abbreviations

HTN-Hyalinizing trabecular neoplasm
FNAC-Fine needle aspiration cytology
PTC- Papillary thyroid carcinoma.
MTC-Medullary thyroid carcinoma.

CLINICAL MESSAGE

As HTN overlaps with aggressive neoplasms of thyroid, FNA from representative areas and correlating cytological and histopathological findings in cases of asymptomatic thyroid nodules can avoid overtreatment with unnecessary total thyroidectomy because HTN can be treated by a simple lobectomy.

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