



Case Report

Anaplastic Thyroid carcinoma: A Rare Case

Mangala R Nagare*, Joshi Sneha R, Ashwini Karwande, Smita Pathak, Tekwani Deepa T, Janice Jaison

Department of Pathology, MIMER Medical College, Talegaon (D), Pune, India

Keywords: *Anaplastic carcinoma, Goiter, Thyroid, Pathology*

Abstract

Anaplastic carcinoma of thyroid is one of the most lethal tumours in humans. They are rare and usually occur in cases of long standing thyroid disease and other thyroid tumours. Prognosis is poor with a mean survival rate of about 6 months after diagnosis. However patients with small foci of anaplastic carcinoma, in well-differentiated thyroid tumours, that are excised completely, are reported to have better survival rates. Death is usually due to local recurrence or distant metastasis to lungs, bone or brain.

We report an interesting case of anaplastic thyroid carcinoma, in a 47 year old lady with longstanding co-existing goiter.

*Corresponding author:

Dr Mangala R Nagare, C/502, Tejowalaya, Near Cipla Foundation, Warje, Pune-52, India
e-mail: manalnagare@yahoo.co.in; Mobile: +91 9881099589,



This work is licensed under the Creative Commons Attribution 4.0 License. Published by Pacific Group of e-Journals (PaGe)

Introduction

Anaplastic thyroid carcinomas (ATC) are the most lethal tumors in humans¹. Anaplastic thyroid carcinoma (ATC) is a rare malignancy, accounting for only 1 to 2% of all thyroid cancers². It usually occurs in a case of long standing thyroid disease and other thyroid tumors^{3,4}. Prognosis is poor with mean survival rate of about 6 months after diagnosis^{4,5}. Here we report a case of anaplastic carcinoma of thyroid in a middle aged female with co-existing goiter.

Case Report

A 47 yrs old female presented with a large midline neck swelling 5cm X 4cm moving freely upwards with deglutition since last 4yrs. Patient also complained of mild dysphagia. There was no history of pain, fever, altered voice or breathlessness. No history of sudden increase in size. No palpable cervical lymph nodes were noted. Patient was euthyroid clinically and thyroid function tests were within normal limits.

X ray neck showed an ill-defined soft tissue mass in pre tracheal space with multiple foci of calcification suggestive of goiter with minimal deviation of trachea. X ray chest was within the normal limits.

A blind fine needle aspiration cytology (FNAC) was done, 4cc of frank colloid was aspirated and diagnosis of colloid goiter with cystic change was given. However correlation with ultrasonography was advised to rule out any solid area but unfortunately it was not done.

A sub total thyroidectomy was performed and the specimen was sent for histopathological examination. Grossly the specimen was measuring 7x4x3 cm. and was externally unremarkable. On cut section one lobe was completely cystic containing colloid and other lobe showed well circumscribed encapsulated grayish white solid tumor surrounded by thyroid tissue (Fig 1, 2, 3). On microscopy sections from solid tumor mass showed tumor composed of large pleomorphic cells, few were spindle shaped arranged in groups, clusters and solid sheets and interlacing fascicles and showed atypical mitotic figures. Also seen were tumor giant cells, capsular invasion and vascular emboli. The tumor was surrounded by thyroid tissue showing changes of goiter (Fig 4 & 5). From the histopathological features the diagnosis of Anaplastic thyroid carcinoma was made.



Fig 1 Showing Specimen of subtotal thyroidectomy and

Fig 2 Showing Specimen of thyroidectomy with one completely solid and other completely cystic lobe

Fig 3 Tumor mass along with normal thyroid

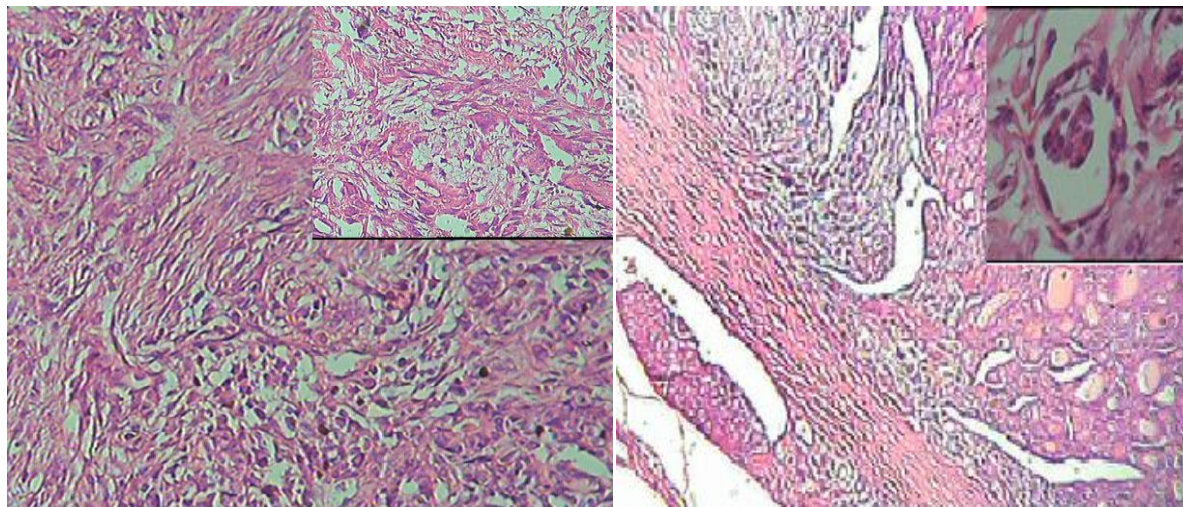


Fig 4 Photomicrograph showing anaplastic areas. Inset shows tumor giant cells.

Fig 5 Photomicrograph Showing Capsular invasion and inset shows vascular emboli

The patient was lost to follow up for 4 months. After that patient came with complaints of right sided neck swelling and PET scan reports. The fluorin -18-FDG-(fluorodeoxyglucose)-positron emission tomography (18 F-FDG PET) scan showed small FDG avid right level II cervical lymph node. No evidence of any other FDG avid distant metastasis was present on whole body survey. Hence, a left hemithyroidectomy with right sided modified radical neck dissection was done & the specimen was sent for histopathology.

Gross: left hemithyroidectomy specimen measuring 4x3x0.5cm was received with two small lymph nodes. No obvious tumor was seen on grossly. Microscopy show colloid goiter and lymph nodes showed no evidence of tumor mass. Right sided radical neck dissection showed tumor mass measuring 4.5x4x2cm with surrounding muscles showing infiltration of the same tumor. On cut section the mass was friable, soft, grayish white with areas of necrosis (fig 3). On microscopy no lymph node tissue was identified. The tumor mass showed histological features of anaplastic thyroid carcinoma invading the muscles. So this whole tumor mass is the metastasis of Anaplastic Thyroid Carcinoma (ATC), which was diagnosed previously.

Discussion

Anaplastic thyroid carcinoma usually presents in elderly patients as rapidly growing mass associated with hoarseness, dysphagia and dyspnoea^{5,6}. The sex distribution shows that females are affected more frequently than males with ratio of 1.5:1⁶. In our case, the patient was a middle aged female with complaints of dysphagia.

Etiological factors including iodine deficiency, radiation exposure, preexisting thyroid disease, long standing goiter is a well-known risk factor for ATC³. In our case, the patient had history of goiter since more than 4 yrs. The tumor has higher incidence in regions of endemic goiter and history of goiter is reported in over 80% cases⁴.

The FNAC is reported to be 90% accurate in diagnosing ATC². But in our case the swelling was diffuse and cystic and initial aspiration showed 4 cc frank colloid hence diagnosis was colloid goiter was made, which was misleading. Hence, even though on blind FNAC we get ample cellularity, a USG correlation and USG guided FNAC from solid areas should be mandatory in cases of solid-cystic lesions of thyroid.

ATC is an extremely lethal tumor seen in usually elderly but should be considered in any age group as in our case patient was a middle aged female. A close follow up of such patients is extremely mandatory as the tumor is

highly aggressive and death is usually due to distant metastasis. In our case, the patient was young at the time of diagnosis, but showed the presence of metastasis in right sided radical neck dissection.

Grossly, ATC is usually fleshy and tan – white with areas of hemorrhage and necrosis.

Microscopically, it is typically composed of a variable admixture of spindle cells, epithelioid cells, and giant cells. Necrosis, vascular invasion and mitoses are quite prominent^{4, 5}. Similar findings were noted in our patient also.

Conclusion

ATC is rare malignancy.² Imaging techniques and USG-guided FNACs will be helpful in diagnosis of thyroid lesions. A close follow up of such patients is extremely mandatory as the tumor is highly aggressive and death is usually due to distant metastasis.

Acknowledgements

None.

Funding

None.

Competing Interests

None declared.

References

1. N Bhat, Subramaniam Vinayak E. Anaplastic thyroid carcinoma with paraneoplastic syndrome. Bombay hospital Journal, 2006;48:655-658.
2. Sze-How NG, Imisairi Ab Hadi. The aggressive anaplastic thyroid carcinomas: A case report and institutional review. World Journal of Endocrine surgery, Jan-April 2012; 4:20-22
3. Peter Humphrey, Louis Dehner, John Pfeifer. Chapter 24, Thyroid, The Washington Manual Of Surgical Pathology. Edition 1st.415-416.
4. Scott L Boerner, Sylvia L. Asa. Chapter 12 Squamoid, Spindle and giant cell lesions. Biopsy interpretations of thyroid. 2010, 227-252.
5. Pathology of thyroid and parathyroid diseases. Sternberg's Diagnostic Surgical Pathology. 5th ed; 518-519.
6. N Ordonez, Z. Baloch et al. Pathology and genetics of Tumors of thyroid and Parathyroid, Undifferentiated (anaplastic) carcinoma. WHO 8; Tumors of endocrine organs.77-79