

The Aggressive Anaplastic Thyroid Carcinoma: A Case Report and Institutional Review

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ABSTRACT

To report a case of anaplastic thyroid carcinoma (ATC) with huge ulcer and to review our experience with these aggressive tumors in our hospital. We retrospectively reviewed the presentation, treatment and survival of all the patients who were diagnosed with ATC at Hospital Raja Perempuan Zainab II (HRPZ II), Kota Bharu, Malaysia from 2004 to 2010. A 63-year-old woman presented to outpatient clinic with history of anterior neck swelling for more than 10 years. She complained of rapid increase in size with huge ulcer and associated with hoarseness of voice and shortness of breath over 1 month period. She was investigated and the diagnosis of ATC was established. However, she refused for any surgical intervention and eventually succumbed during the palliative treatment 5 months later. ATC is a very rare thyroid cancer and usually presents at a very late stage with significant morbidity and mortality. Early detection, new therapeutic strategies and more studies especially based on molecular approaches may probably more helpful for better survival results in the future.

Keywords: Anaplastic thyroid carcinoma, Fine needle cytology aspiration (FNAC), Extrathyroidal extension.

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INTRODUCTION

Anaplastic thyroid carcinoma (ATC) is a rare malignancy, accounting for only 1 to 2% of all thyroid cancers. Although ATC occurs in two per million populations every year, it is one of the most aggressive human malignancy. It causes 40% of thyroid cancer deaths and the overall median survival is in 6 to 12 months.² In this study, we reviewed the various presentations and survival patterns of ATC patients in our unit over a 7-year period.

CASE REPORT

A 63-year-old woman presented to the outpatient clinic at Hospital Raja Perempuan Zainab II (HRPZ II), Kota Bharu, Malaysia with a 10 years history of anterior neck swelling. She complained of a rapid increase in swelling, hoarseness and shortness of breath over a 1 month period (Fig. 1). We performed fine needle aspiration cytology (FNAC) and diagnosed her condition as ATC. We ordered a computed tomography (CT) of her neck and this showed an advanced

thyroid carcinoma with infiltration to the surrounding structures (Fig. 2). Considering the tumor stage and patient's unwillingness for surgery, she was referred to the oncology unit for radiotherapy and chemotherapy. She, however, succumbed to her condition while on treatment 5 months later.

INSTITUTIONAL REVIEW

We retrospectively reviewed the clinical presentation and survival pattern of all patients diagnosed with ATC based on the FNAC report at HRPZ II from 2004 to 2010 (Table 1). We identified 16 patients with ATC whose ages ranged from 36 to 81 years. Median age was 62 years. Only one patient presented with toxic symptoms with Free T4 of



Fig. 1: A nonhealing ulcer noted over her left anterior neck region (arrow)

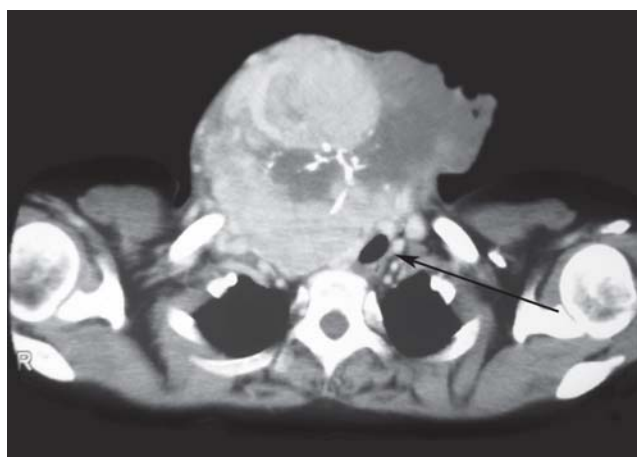


Fig. 2: Neck computed tomography (CT scan) showing the lateral displacement of trachea by the tumor (arrow)

20.9 nmol/L and thyroid stimulating hormone (TSH) of 0.06 mU/L. On the other hand, the other 15 patients were clinically euthyroid with normal results for the thyroid function test (TFT). Thirteen patients (81.2%) were female and they presented at advanced stages with a range of symptoms. Dysphagia and dyspnea were the common presentations in this case series. All patients presented with tumor size > 4 cm on their first visit and, in most cases had lymph node involvement (81.2%) and extrathyroidal extension (87.5%). The prognosis was almost invariably fatal with most of them (62.5%) hardly surviving for more than 3 months.

DISCUSSION

ATC usually presents in people in their 60 and 70s and has about 55 to 77% female preponderance.³ Similar to other studies, most of our patients were in their 60 and 70s and were females. However, there was only one patient less than 40-year-old who indeed a Japanese tourist presented with sudden increase of anterior neck swelling within two months. In addition, only 25% of our patients had history of long

standing goiters of more than 10 years compared to 75% of those who presented with history of goiters which were less than 10 years.

Most of our patients presented late in this study. For example, 62.5% of them presented with dyspnea followed by dysphagia (56.2%) and hoarseness of voice (50%). These rates were slightly higher than the rates in other studies.¹⁻³ This was probably because most of our patients were from low socioeconomic group with poor education level.

All of our patients with ATC were diagnosed using FNAC and CT scan. Half of them first presented with distant metastasis. The FNAC is reported to be about 90% accurate in diagnosing ATC.⁴ In addition, CT scan, magnetic resonance imaging and PET scan are often used to evaluate the extent of invasion of ATC. On the other hand, Giuffrida and Neil reported that most of ATCs were direct invasion of adjacent structures (90%), distant metastasis (50-75%), cervical lymphadenopathy (40%) and true vocal cord paralysis (40%).^{5,6}

Treatment of ATC is controversial and nonspecific; this may include surgery, radiation, chemotherapy or a multimodality approach. Surgical treatment for ATC is usually difficult as ATC is often present at an advanced stage which makes curative surgical resection not feasible.⁷ In addition, most studies have shown that neither the extent of surgery nor the completeness of resection has a significant effect on survival. As ATC is relatively radioresistant, radiation is more of a palliative treatment. Although radiation has been shown to achieve 68 to 80% local control, it has greater treatment morbidity.⁸ A multimodality approach to treat ATC includes electron beam radiation therapy (EBRT). It can be either combined with surgery or with chemotherapy to increase local recurrence and increase radiosensitivity of ATC.^{8,9} Prognostic factors that have been reported were distant metastasis, acute symptoms, duration of symptoms and tumor size.⁹ A study has shown that patients without distant metastasis had an 8 months survival rate as opposed to a 3-month survival rate of patients with distant metastasis.⁹

Even though occurrence of ATC is very rare, that is consisting of about 1.2% of all the thyroid cancers in our hospital, the condition is usually presented at a very late stage and is associated with significant morbidity and mortality. Early detection, new therapeutic strategies and more studies especially on molecular approaches would probably be more helpful for better survival outcomes in the future.

Table 1: Patient's clinical presentations

	Number	Percentage
Sex		
Male	3	18.8
Female	13	81.8
Duration of goiter		
>10 years	4	25
<10 years	12	75
Toxic symptoms		
Yes	1	6.25
No	15	13.75
Dysphagia	9	56.2
Dyspnea	10	62.5
Hoarseness of voice	8	50
Neck pain	2	12.5
Tumor size		
> 4 cm	16	100
< 4 cm	0	0
Lymph node involvement		
Yes	13	81.2
No	3	18.8
Extrathyroidal extension		
Yes	14	87.5
No	2	12.5
Distant metastasis		
Yes	8	50
No	8	50
Survival rate		
< 3 months	10	62.5
3-6 months	4	25
6-12 months	1	6.25
> 1 year	1	6.25

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