Anaplastic Thyroid Carcinoma: An Unusual Clinical Presentation and Clinical Dilemma

P Shetty, P Addala, B Anand, R Lakshmi

Citation

Abstract
Anaplastic Thyroid Carcinoma (ATC) is the most active and lethal kind of thyroid carcinoma with a peak incidence in the 6th to 7th decade; women comprising 55%-77% [1]. It accounts for 1% to 2% of all thyroid carcinomas [2]. ATC has a bad prognosis, with a median survival of 4 to 12 months from the time of diagnosis. [3,4]. The diagnosis of ATC is usually based on clinical examination and confirmed by FNAB or core biopsy. The incidence of ATC has steadily decreased over the past few decades, although the reason for this decline is unknown [5]. Here we discuss a case of anaplastic carcinoma of the thyroid, presenting unusually as a periampullary lesion in the gastro-intestinal tract and soft-tissue tumor over the right scapular region. To the best of our knowledge, ATC masquerading as gastro-intestinal tract mass lesion and soft-tissue tumor was never reported before.

INTRODUCTION
Anaplastic Thyroid Carcinoma (ATC) is the most active and lethal kind of thyroid carcinoma with a peak incidence in the 6th to 7th decade; women comprising 55%-77% [1]. It accounts for 1% to 2% of all thyroid carcinomas [2]. ATC has a bad prognosis, with a median survival of 4 to 12 months from the time of diagnosis [3,4]. The diagnosis of ATC is usually based on clinical examination and confirmed by FNAB or core biopsy. The incidence of ATC has steadily decreased over the past few decades, although the reason for this decline is unknown [5]. Here we discuss a case of anaplastic carcinoma of the thyroid, presenting unusually as a periampullary lesion in the gastro-intestinal tract and soft-tissue tumor over the right scapular region. To the best of our knowledge, ATC masquerading as gastro-intestinal tract mass lesion and soft-tissue tumor was never reported before.

CASE REPORT
A 62-year-old male, a known alcoholic and smoker for the past 40 years, came to the outpatient department with the complaints of swelling over the right shoulder blade and upper abdominal pain which increases in intensity after the intake of food. He also gave a history of progressive increase in the hoarseness of voice for the past 15 days which he attributed to sore throat and cold. On clinical examination, hard matted deep cervical lymph nodes were identified bilaterally and the larynx was fixed. But no obvious thyroid swelling was made out. For these complaints, the patient was evaluated. With these findings, a clinical diagnosis of multiple synchronous carcinoma was thought of – thyroid carcinoma and soft tissue sarcoma with gastritis. Esophagogastroduodenoscopy showed a mass lesion in the periampullary region which was thought to be periampullary carcinoma. Biopsy was taken and sent for histopathological examination. Fine needle aspiration biopsy of the swelling over the right shoulder blade and the cervical nodes was done and sent for cytological examination. A chest radiograph was taken which showed opacity in the right upper zone. A video-assisted laryngoscopy was done which showed no obvious growth or ulcer arising from the larynx, but a fixed right vocal cord and right arytenoids falling forward. All biopsy samples were reported as metastasis from anaplastic thyroid carcinoma. In the meantime, there was rapid increase in the size of the thyroid swelling which produced compressive symptoms for which emergency tracheostomy was done, but the patient deteriorated and expired on post-operative day 3 following tracheostomy.
Anaplastic Thyroid Carcinoma: An Unusual Clinical Presentation and Clinical Dilemma

Figure 1
Figure A: Clinical photograph showing swelling over the shoulder blade [long arrow] and neck nodes [small arrow]; B: Plain chest radiograph showing solitary opacity in the right upper zone and opacity in the right hilar region.

Figure 2
Figure C: showing the periampullary lesion; D: fullness of the right ventricular band with right arytenoids falling forward.

Figure 3
Figure E1: FNA of the swelling over the back showing highly pleomorphic large cells comprising large nuclei with irregular scalloped nuclei, multiple eosinophilic nucleoli, coarse chromatin and frequent mitosis, with moderate to vacuolated cytoplasm; E2: FNA of the cervical node showing singly scattered malignant cells [mitotic figures and hyperchromatic cells] with background showing necrosis and blood cells

Figure 4
Figure E3: Biopsy of the periampullary lesion showing the pleomorphic cells in the lamina propria with enlarged eccentric hyperchromatic nuclei and prominent eosinophilic nucleoli; E4: FNA of the thyroid lesion showing anaplastic cells with hyperchromatic nuclei and prominent nucleoli.

DISCUSSION
Anaplastic Thyroid Carcinoma (ATC) is the most active and lethal kind of thyroid carcinoma. ATC has a bad prognosis, with a median survival of 4 to 12 months from the time of diagnosis [3, 4]. The diagnosis of ATC is usually based on clinical examination and confirmed by FNAB or core biopsy. Most patients with ATC demonstrate local compressive symptoms including dysphagia, dysphonia, stridor, dyspnea, and neck pain and tenderness [6]. Regional nodal metastases and vocal cord paralysis are seen in up to 40% and 30%, respectively, of the patients with ATC [7]. Direct invasion of surrounding tissues, such as fat, trachea, muscle, esophagus, and larynx is seen in over 70% of the cases [8]. Systemic metastases occur in up to 75% of patients, with lung being the most common site (80%), followed by bone (6% to 15%) and brain (5% to 13%) [9]. A periampullary mass lesion as in our case is very unusual and has led to initial confusion of synchronous multiple primary malignancies. Fine needle aspiration and biopsy of the lesions confirmed the lesions as synchronous metastasis from anaplastic thyroid carcinoma on histopathological examination. Metastasis presenting as a soft-tissue sarcoma was reported, but metastasis to the gastrointestinal tract, too, as a periampullary lesion which was seen in our case had never been reported before. Despite the high rate of synchronous metastases, death is usually related to extensive local disease with ultimate airway obstruction, as in our case – which forms the basis for palliation as a central issue in the management of ATC. Patients often present at an advanced stage, making curative surgical resection not feasible. Most studies find that neither the extent of surgery nor the completeness of resection has a significant effect on survival [10]. Novel treatment strategies are necessary if we are to make any progress in treating ATC.
References

Author Information

Prashanth Shetty
Assistant Professor, Department of Surgery, Kasturba Hospital, Manipal University

Pavan Kumar Addala
Department of Surgery, Kasturba Hospital, Manipal University

B. Rao Anand
Department of Surgery, Kasturba Hospital, Manipal University

Rao Lakshmi
Department of Pathology, Kasturba Hospital, Manipal University