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Title: Rapid growth and local advance of an aggressive papillary thyroid cancer with anaplastic transformation in an elderly woman

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CASE REPORT

A 71- year- old female presented to our surgical department complaining of painful, erythematous and ulcerated neck mass causing bleeding (figure 1). She also complained of shortness of breath and generalized fatigue. Her medical history included osteoporosis, hypertension and dyslipidemia. The history dates back to 5 years ago when she had noticed to have a cervical nodule during routine examination for elective cholecystectomy. Chest radiograph at that time noticed a well-defined nodule about 4 * 4 cm (figure 2). That pathological findings was ignored by the patient till recently when that mass started to grow up, ulcerate and bleed. Patient underwent incisional biopsy of the mass which turned to be metastatic papillary carcinoma in cervical lymph node with extensive neoplastic infiltration of skin and sub-cutaneous tissue by anaplastic tumor, giant cell type. A whole body Computed tomography showed multiple metastatic lung nodules. The rest of the body was free of metastasis. Multimodal therapeutic approaches were started including debulking surgery (R2 resection), radiation to a biologically equivalent dose and adjuvant chemotherapy with doxorubicin and docetaxel. Despite supportive treatment her condition kept deteriorating and presented later with advanced necrotic neck tumor that causing active bleeding (figure 3). At this moment the treatment discontinued as per family request and had just curettage to alleviate the bleeding process. After several weeks the tumor progressed rapidly to reach a huge size (figure 4) and patient started to have dysphonia, dysphagia, and dyspnea. Unfortunately patient subsequently died.

DISCUSSION

Anaplastic thyroid cancer (ATC) accounts for a small percentage of thyroid cancers (1.6%) and ranks among the most aggressive and lethal solid tumors of all human malignancies with a disease-specific mortality approaching 100% [1]. It accounts, however, for 14 to 39% of thyroid cancer deaths [2]. The mean survival rate ranges from 4 to 12 months [1].

Approximately half of patients at the time of diagnosis with ATC have evidence of distant metastatic disease, which is represents a poor clinical prognostic factor that predicts rapid disease progression and death [3)]. Another 25% will develop distant spread during the course of their disease [4].

It is well known that ATC does not arise de novo but rather considered part of the natural history of untreated papillary thyroid carcinoma (PTC) or follicular carcinoma and Hu¨rthle cell tumors [1]. However some authors like Sam M et al, evaluate the change in the cancer expression profile that occurs during the transformation of DTC into ATC. They identified a panel of 3 upregulated markers (_-catenin [CTNNB1], topoisomerase II-_ [TOPO-II], and vascular endothelial growth factor [VEGF]) and 2 downregulated markers (thyroglobulin [TG], , Ecadherin [E-CAD]) seem to most consistently differentiate ATC from DTC [4].

There is no definitely effective therapy exists for ATC even with aggressive multimodal approach. A Research Consortium of Japan (ATCCJ) analyzed data from a large cohort of 677 ATC patients to determine prognostic factors and treatment outcomes for ATC. They found that only 15% of patients achieved long-term survival exceeding 1 year after diagnosis and concluded that complete resection is considered the cornerstone for longer survival, along with adjuvant radio-chemotherapy [2].

A recent review reported success of combining external beam radiotherapy EBRT (multiple small radiation doses that allow more than one radiation treatment a day) with taxanes in anaplastic thyroid cancer. The local control rate was 60%, but the 2-yr survival was only 9%. In only 24% was death attributable to local failure, reflecting the high rate of distant metastatic disease that is unresponsive to chemotherapy [5].

CONCLUSION

In conclusion, we have described a case of anaplastic transformation of papillary carcinoma with lung metastasis and we emphasized the aggressiveness and rapid behavior of this tumor (it is not unusual for tumor volume to double over a week of observation). Because of its rarity and rapidly fatal clinical course ATC has been difficult to study and despite aggressive treatment, almost all affected individuals eventually die of their disease.

KEYWORDS

Anaplastic tumor, Local advance, Fatal outcome.

CONFLICT OF INTEREST

No conflict of interest.

AUTHOR'S CONTRIBUTIONS

Houssam Abtar

Group 1- Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data,

Group 2- Drafting the article, revising it critically for important intellectual content,

Group 3- Final approval of the version to be published

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Group 3- Final approval of the version to be published

Mustafa Mneimne

Group 1- Substantial contributions to conception and design,

Group 2- Revising it critically for important intellectual content,

Group 3- Final approval of the version to be published

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FIGURE LEGENDS

Figure 1 Right sided ulcerated neck mass causing erythema of the skin.

Figure 2: Chest X-ray showed well-defined nodule 40.8*43.2 mm causing tracheal deviation.

Figure 3: Advanced necrotic bleeding tumor extended outside the skin and involving the surrounding tissue.

Figure 4: Very ugly looking 15*15 cm tumor with areas of necrosis.

FIGURES

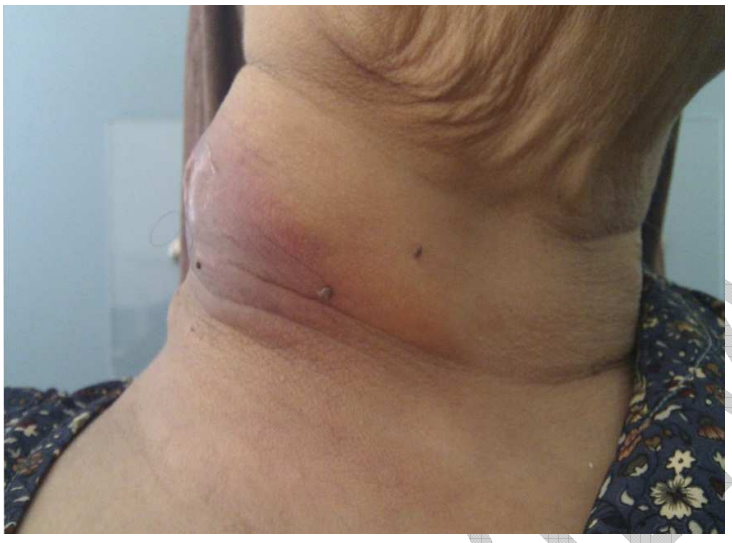

Figure 1 Right sided ulcerated neck mass causing erythema of the skin.

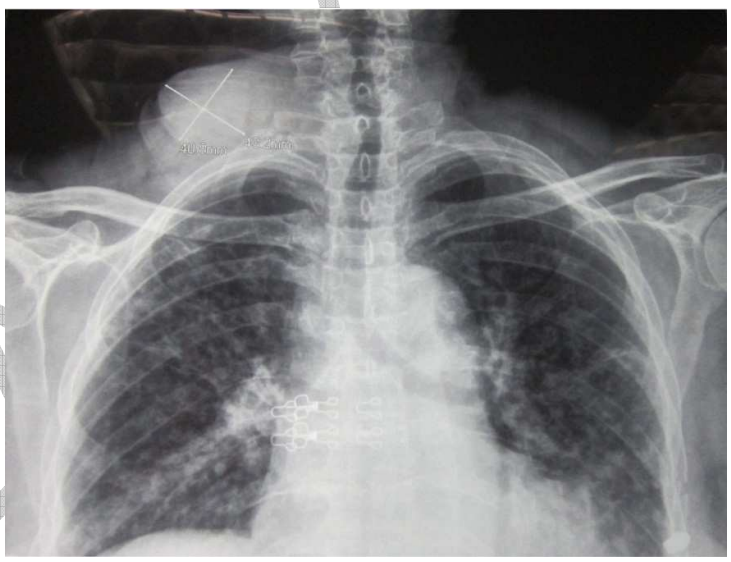

Figure 2: Chest X-ray showed well-defined cervical nodule 40.8*43.2 mm causing tracheal deviation.

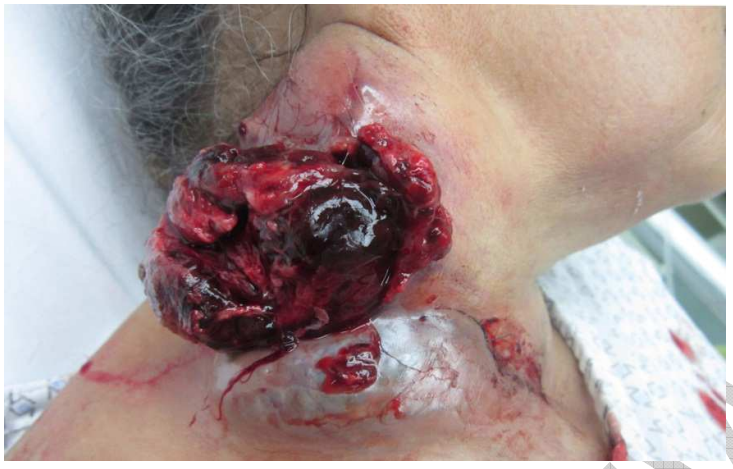

Figure 3: Advanced necrotic bleeding tumor extended outside the skin and involving the surrounding tissue.

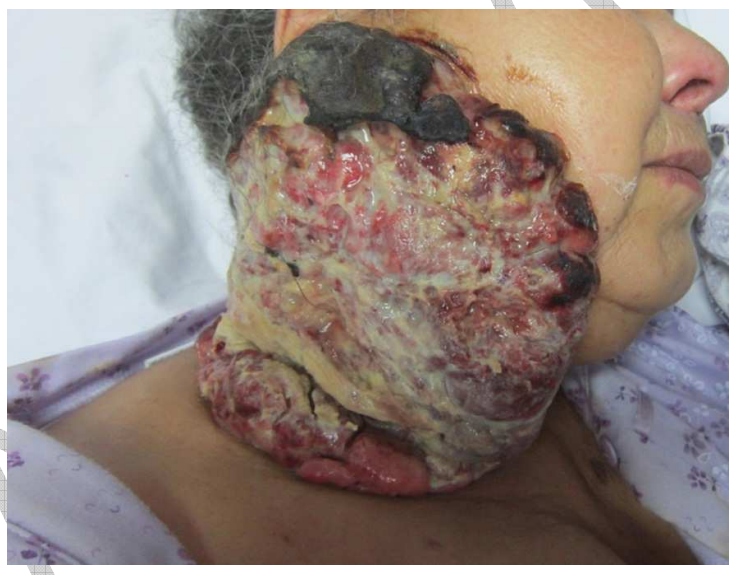

Figure 4: Very ugly looking 15*15 cm tumor with areas of necrosis.