

Untreated Early-Stage Thymic Carcinoma Leads to Progression: A Case Report

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Citation: Yu S, LIU F, Quan Y, WU K (2023) Untreated Early-Stage Thymic Carcinoma Leads to Progression: A Case Report. *J Integrated Health* 2023;2(4):102-103. DOI: doi.org/10.51219/JIH/Shouqiang-Yu/18

Received: 05 September, 2023; **Accepted:** 18 November, 2023; **Published:** 20 November, 2023

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ABSTRACT

Background: Surgery can improve the prognosis of thymus cancer in early-stage. However, because thymus cancer shows less than 1% of anterior mediastinal masses on Computerized tomography (CT), it is easily overlooked in the early stage. In 2018, the patient came to the thoracic surgery department for chest pain. The chest CT examination revealed an anterior mediastinal mass and a small amount of fluid in the left pleural cavity, and the pleural effusion cytology revealed malignant tumor cells. The patient was reviewed for a small mediastinal mass chest CT in 2015, and the chest CT showed an enlargement of mediastinal mass and left pleural effusion in 2018, which was considered to be caused by the progression of the thymus tumor. This case report helps thoracic surgeons, radiologists, and other patients learn from the case.

Keywords: Untreated early-stage thymic carcinoma, Progression, Case report

Abbreviations: CT: Computed Tomography

1. Background

Surgery can improve the prognosis of thymus cancer in early-stage. However, because thymus cancer shows less than 1% of anterior mediastinal masses on Computerized tomography (CT), it is easily overlooked in the early stage.

2. Case Presentation

In 2018, the patient came to the thoracic surgery department for chest pain. The chest CT examination revealed an anterior mediastinal mass and a small amount of fluid in the left pleural cavity, and the pleural fluid cell examination showed that a heterogeneous cell mass was found and a malignant tumor was considered. Then immunohistochemistry Ki67 (+), CK20 (-), P40 (+), ViLLin (-), D2-40(-), CK7(+/-), TTF-1(-), CR(-) and HBME(-), which showed a predisposition to squamous cell carcinoma. The patient was reviewed for a small mediastinal mass chest CT in 2015, and the chest CT showed an enlargement

of mediastinal mass and left pleural effusion and Glycoprotein antigen 125 124.9 U/ml in 2018, which was considered to be caused by the progression of the thymus tumor. This case report helps thoracic surgeons, radiologists, and other patients learn from the case.

Two cycles of chemotherapy with “paclitaxel liposome 240mg d1+ cisplatin 40mg d1-3”, then “etoposide 0.15 d1-3+ nilotinib 12mg d1-14” and other chemotherapy regimens were given successively, followed by 16 consecutive radiotherapy with a total dose of 56 Gy. The patient was found to have a mediastinal fistula on June 05, 2019, and was given the best supportive treatment. The patient died on June 20, 2019.

3. Discussion

The incidence rate of thymic carcinomas was estimated to be 0.29/100000 to 0.38/100000¹. Thymic carcinomas can exhibit aggressive clinical behavior with a predisposition toward disease

recurrence after definitive therapy. Approximately one-third of patients with newly diagnosed thymic carcinoma present with metastatic disease that requires systemic therapy. Five-year survival of patients with TNM stage III or IV thymic carcinoma ranges from 67% for individuals who have undergone complete surgical resection to 24% for patients with inoperable disease. Among surgically treated patients, younger age at diagnosis and localized disease are associated with better overall survival².

In this case, there was no timely surgical treatment at TNM staging I, and the interval of examination and treatment was nearly 3 years later. At this time, it is a pity that thymic cancer developed to stage IVB, and the prognosis is likely to be better if the anterior mediastinal tumor was surgically removed when the first CT was found (**Figure 1**).

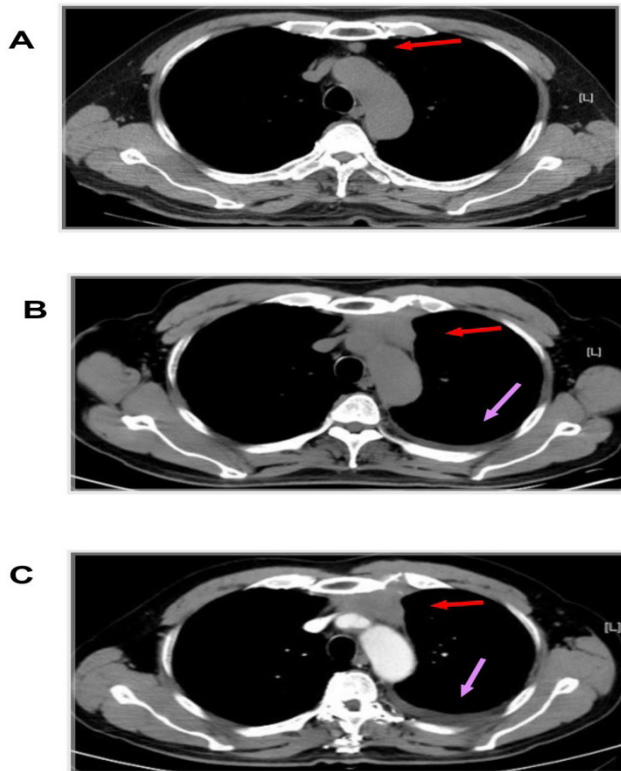


Figure 1: A) Red arrow pointing to the anterior mediastinal tumor on a 2015 chest CT; B and C) The arrow indicates the progression of the thymus carcinoma in the 2018 Chest scan and enhanced CT to stage IVB with the increased anterior longitudinal mass and the left small chest fluid.

4. Conclusion

Although the incidence of thymus cancer is low and the prognosis of missed diagnosis is poor, maybe early treatment is the key to reducing missed diagnosis probability and improving curative effects even when the nature of the anterior mediastinal mass is unknown.

5. Acknowledgments

5.1 Author's contributions

Shouqiang Yu collected the data of the patient, consulted literature, and wrote the manuscript; Feng Liu edited the manuscript and dealt with the Figs. Yonghui Quan also gave useful suggestions on writing and improved the manuscript. Kunpeng Wu was the consultant in charge of the case, established the diagnosis, and approved the submitted version. All authors read and approved the final manuscript.

5.2 Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

5.3 Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

5.4 Institutional review board statement

This study was approved by the ethics committee of the Lishui branch of Zhongda Hospital Affiliated to Southeast University, Nanjing 211200, China. The patient's immediate family signed the written informed consent for the article to be published in a medical journal.

5.5 Data availability statement

The datasets used and analyzed in the current study are available from the corresponding author on demand.

6. References

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