

## Anterior Mediastinal Mass as the Initial Presentation of a Choriocarcinoma

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### Abstract

A 43-year-old man presented with shortness of breath for 10 days and loss body weight in the past month. Chest palpation showed gynecomastia. Computed tomography scan of the chest showed a 14-cm necrotic mass at anterior mediastinum with extension to left upper lung and multiple nodules in both lungs. The beta human chorionic gonadotropin ( $\beta$ -HCG) level was elevated. The patient received ultrasound-guided biopsy of the anterior mediastinal mass. Histology revealed choriocarcinoma with trophoblastic differentiation and marked necrosis.

### Publication History:

Received: October 03, 2015

Accepted: February 01, 2016

Published: February 03, 2016

### Keywords:

Choriocarcinoma, Mediastinum, Computed Tomography

### Introduction

Anterior mediastinal choriocarcinoma is an extremely rare tumor [1,2], with a number of distinct CT characteristics [3,4]. Most importantly, the choriocarcinoma grows rapidly in the mediastinum, with bulky necrosis or degeneration. We presented a case of anterior mediastinal mass as the initial presentation of a choriocarcinoma.

### Case Report

A 43-year-old man presented with shortness of breath for 10 days. He had smoked 2 packs of cigarettes daily for 20 years. His body weight had loss of more than 10% in the past month. Chest palpation showed gynecomastia.

Chest radiograph showed left lung whiteout with multiple round opacities and a hyperlucent right lung with nodular opacities (Figure 1A). Computed tomography (CT) scan of the chest, done immediately, showed an ill-defined, lobulated mass of about 14 cm (Figure 1B) with obvious necrosis at anterior mediastinum with involvement to left upper lung and multiple nodules in both lungs, large bullae in the right lung, and prominent breast tissue bilaterally (Figure 1C). Other laboratory studies including serum tumor markers were unremarkable, but the beta human chorionic gonadotropin ( $\beta$ -HCG) level was unusually elevated at 68 793 mIU/ml (0–5 mIU/ml).

The patient received ultrasound-guided biopsy of the anterior mediastinal mass. Histology revealed choriocarcinoma with trophoblastic differentiation and marked necrosis.

### Discussion

Mediastinal choriocarcinoma is an extremely rare tumor and belongs to a subclassification of nonseminomatous germ cell tumors (NSGCT) which also includes yolk sac cancer and embryonal carcinoma. Along with seminoma, NSGCTs account for about 1–4% of mediastinal tumors [2]. The choriocarcinoma grows rapidly, causing compression of the mediastinum and adjacent structures. Clinically, the patient may complain of shortness of breath, chest pain, cough, gynecomastia, or superior vena cava syndrome or be asymptomatic [3].

The main treatment modality for primary mediastinal choriocarcinoma is chemotherapy, with surgery as a salvage therapy. The current regimen is cisplatin-based chemotherapy with a combination of bleomycin, etoposide, and cisplatin (BEP). However, owing to the pulmonary toxicity of bleomycin, an alternative regimen of etoposide, ifosfamide and cisplatin (VIP) has been introduced. A randomized trial comparing BEP and VIP for NSGCT

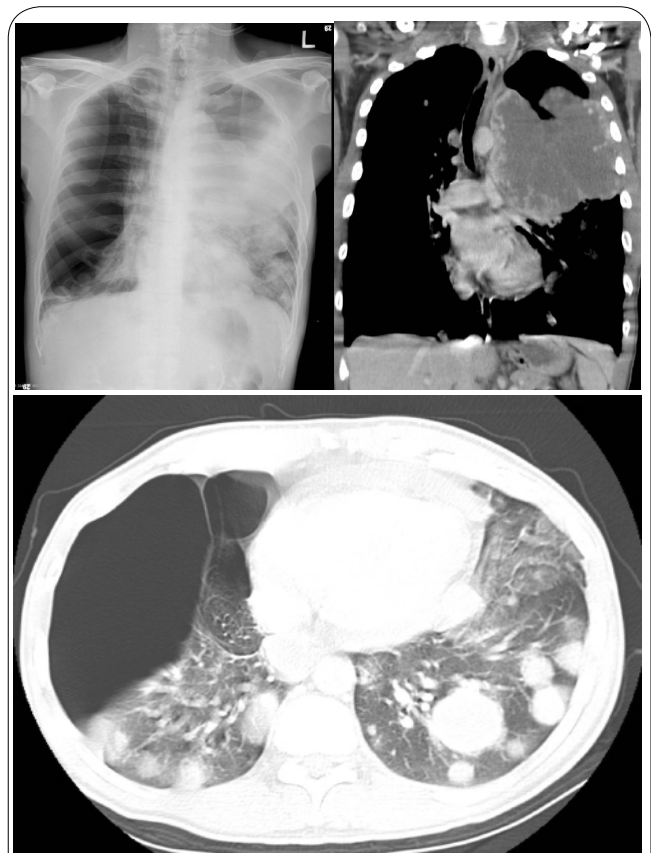


Figure 1: (A) Chest radiograph shows opacity of left lung and a hyperlucent right lung. There are multiple nodules in both lungs. (B) Contrast-enhanced computed tomography (CT) reformatted image shows a bulky, ill-circumscribed mass with central necrosis arising from anterior mediastinum. (C) Axial lung window setting shows multiple round nodules in bilateral lungs and large bullae in the right lung.

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Citation: Lee CH, Chan WP (2016) Anterior Mediastinal Mass as the Initial Presentation of a Choriocarcinoma. Int J Radiol Med Imag 2: 108. doi: <http://dx.doi.org/10.15344/ijrmi/2016/108>

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showed statistically similar survival [4]. Nevertheless, postoperative pulmonary failure in patients receiving VIP appears to be less.

Given the aggressive nature of the tumor, the prognosis is dismal. Prior to the widely used of cisplatin-based regimen as chemotherapy, the median survival was reported to be about 5 months [2]; however, it markedly improved with use of cisplatin, with a 5-year survival of 45% to 57% [5]. Early diagnosis is important because this tumor is capable of aggressive clinical behavior requiring rapid and appropriate management with chemotherapy or surgery.

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