

PRIMARY MEDIASTINE SEMINOMA: A CASE REPORT

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Abstract: Germ cell tumors are rare neoplasms with gonadal involvement and the mediastinum is one of the main sites of extragonadal events. Seminomas account for one third of these lesions. Its symptoms depend on the size and compressive effects. Furthermore, seminomas may be related to testicular trauma, orchitis or incomplete testicular descent, ventricular septal defect, congenital absence of the thoracic hemivertebra, pulmonary stenosis or gynecomastia. And elevated beta-human chorionic gonadotropin and normal alpha-fetoprotein values. It responds well to radiotherapy and chemotherapy.

Keywords: Germ cell tumors; Mediastinum; Seminomas

INTRODUCTION

Germ cell tumors are rare neoplasms that occur most frequently in the gonads, but can occur extragonadal, such as in the pineal gland, retroperitoneum, mediastinum and sacral area.

In the mediastinum, primary extragonadal germ cell tumor is believed to arise from primitive germ cells that migrated along the midline during embryogenesis or originate from primordial thymus cells.

Mediastinal germ cell tumors account for approximately 10% to 20% of all mediastinal neoplastic processes, with seminoma accounting for 1/3 of these tumors.

Mediastinal seminoma has a behavior corresponding to its growth, causing symptoms related to the respiratory tract and adjacent structures due to the compressive effect. Treatment is recommended according to the individual characteristics of each case. The prognosis, which has clinical and pathological staging as one of its indicators, has improved over the years due to increased knowledge and behavior of neoplasia, as well as the use of new approaches.

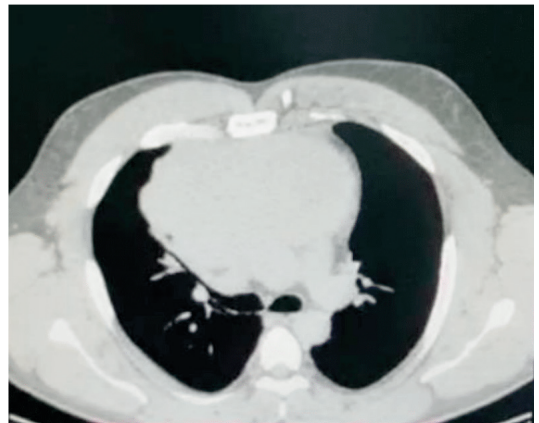
The present case report describes an

important association between cryptorchidism, gynecomastia and mediastinal mass with the possibility of seminoma.

REPORT OF CASE

Man, 48 years old, security guard, from and resident of the Federal District. Previously healthy, with a history of left-sided orchidopexy at the age of 12 and use of anabolic steroids for three years. Admitted due to dyspnea on minimal exertion associated with dry cough, palpitations, asthenia and night sweats that began a month ago, progressing with progressive worsening. Physical examination revealed bilateral gynecomastia, left antero-superior collateral circulation of the chest, respiratory and cardiological auscultation were unchanged, and left testicle was slightly reduced.

Contrast-enhanced tomographic investigation revealed a large expansive lesion with soft tissue density occupying the anterior mediastinum, mild contrast enhancement, measuring 148 x 148 x 96mm, compressing the superior vena cava, right atrium and parenchyma and pulmonary vessels; in addition to another small nodule with soft tissue density in the anteroinferior mediastinum. The human chorionic gonadotropin value was 61.43 and alpha-fetoprotein was normal.



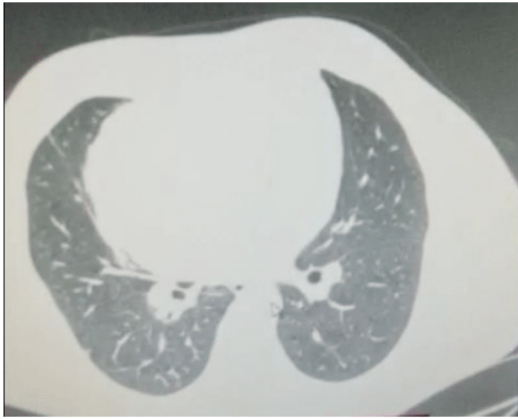


Figure 1. Anteriorly located mediastinal mass

Videothoracoscopy and tumor biopsy were performed, the anatomopathological and immunohistochemical results revealed a solid malignant neoplasm of mediastinal germ cells (OCT 3/4 +; CD117 +), with a cell proliferation index of 80% (Ki-67). The patient was referred to start chemotherapy.

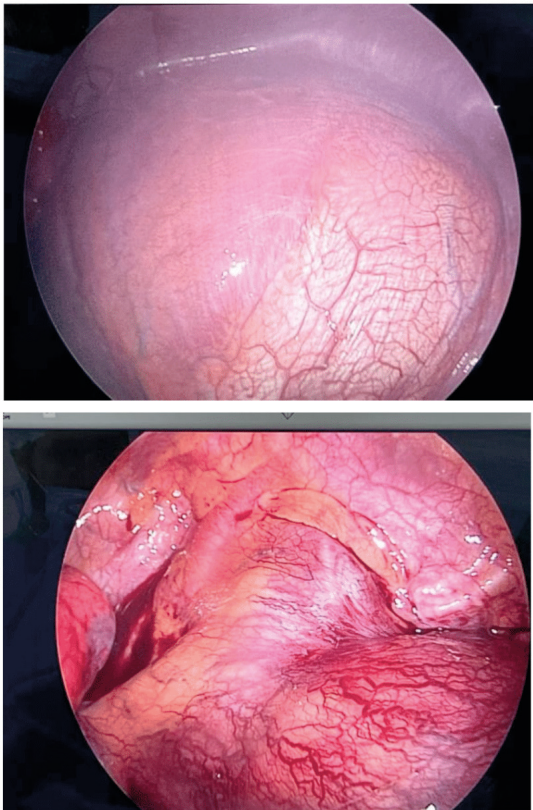


Figure 2 and 3. Large mediastinal mass seen on videothoracoscopy

DISCUSSION

Germ cell tumors (GCT) are rare neoplasms that occur more frequently in the gonads, but can occur in an extragonadal form, such as in the mediastinum, which the literature describes as coming from primitive germ cells that migrated along the midline during embryogenesis or if originate from the primordial cells of the thymus.

Mediastinal germ cell tumors (MGCT) account for approximately 10% to 20% of all mediastinal neoplastic processes, with seminoma being the second largest representative, accounting for approximately 1/3 of GMCTs and between 2 and 4% of mediastinal tumors.

GMCTs occur mainly in the anterior mediastinum and are divided into three main categories based on histology: 1) seminomatous, 2) non-seminomatous and 3) teratomas. Mediastinal seminomas are rare tumors, accounting for 2 to 4% of mediastinal masses. It most frequently affects young adults, aged between 20 and 40 years, males and rarely occurs in women, which is called dysgerminomas.

Mediastinal seminomas can be asymptomatic or present symptoms related to the size of the tumor when compressing structures adjacent to its location, such as cough, chest pain, hemoptysis or dyspnea, even an acute clinical condition due to the presence of superior vena cava syndrome.

Furthermore, seminomas may be related to a history of testicular trauma, orchitis or incomplete testicular descent. Other clinical syndromes may also be related to ventricular septal defect, congenital absence of the thoracic hemivertebra, pulmonary stenosis and gynecomastia. Therefore, in addition to a complete physical examination, the testicles must be examined with careful palpation and ultrasound investigation performed in all men with mediastinal seminoma.

Radiologically, they are described as a large, well-circumscribed anterior mediastinal mass that grows on both sides of the midline. On chest computed tomography, they are large, coalescent, lobulated and with homogeneous attenuation similar to the soft tissue. In laboratory tests, an elevated beta-human chorionic gonadotropin (beta-hCG) level may occasionally be observed, and an alpha-fetoprotein (AFP) level will be within normal

limits, except in cases of liver disease or another medical condition that justifies its increase.

Seminomas are good responders to chemotherapy and radiotherapy, and recur in the postoperative period and have lower survival rates with surgical approaches.

FINANCIAL SUPPORT

Own resources.

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