

Cervico mediastinal teratoma in adult: A very rare presentation

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ABSTRACT

Teratoma is a rare presentation in adult, specifically in cervico-mediastinal region. We reported two adult patients with diagnosis of cervico-mediastinal teratoma and operated them. In adult patients who present with cervico-mediastinal mass, benign teratoma could be one of a differential diagnosis although it is a rare presentation.

KEY WORDS: Teratom, cervico-mediastinal, surgical excision

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INTRODUCTION

1 in 3,400 hospital admissions are due to mediastinal tumors. Benign germ cell tumors are uncommon. These tumors account for 5% to 10% of all mediastinal tumors. 5% to 10% of germ cell tumors are extra gonadal and the most common extra gonadal site is mediastinum. In a collective review of anterior mediastinal tumors, approximately 15% of the anterior mediastinal tumors in adults (85% of these were benign) and 25% in children were germ cell tumors (all of which were benign). Germ cell tumors have equal distribution in both sexes and occur in the second to fourth decades of life. Review of 1,064 mediastinal tumors managed surgically showed 99 (9.3%) were teratomas. Almost all benign teratoma are in the anterior compartment of the mediastinum. Only 3% to 8% are located in either the paravertebral area or posterior portion of the visceral compartment.^[1]

Clinical symptom in neonates may be severe respiratory distress and prenatal evaluation and diagnosis is the only way to prevent complications due to airway obstruction.^[2] Our patients had a large mass in cervical region without having significant problems.

Benign teratoma almost equivalently diagnosed with CT scan. CT scan usually showed a mass consisting of fluid and fat density. Calcification is demonstrated almost in half of these tumors. Tumor markers include α -fetoprotein and β -subunit of human chorionic gonadotropin. With above CT findings and normal tumor markers, complete surgical excision is suggested without biopsy. These tumors are usually bulky and approach for surgical excision is usually median sternotomy.^[3]

MRI is a useful tool for diagnosis of mature teratoma and for assessing the relationship of the tumor to the vital structures and great vessels in the mediastinum. Ultrasonography is useful for evaluating neck mass especially in fetuses and neonates.^[4]

CASE REPORT

A 21 year-old female was admitted with anterior neck mass. On physical examination, a large fluctuant and painless mass was observed at the base of neck. A thyroid scan showed normal thyroid size with lesion compressing left lateral aspect of right lobe of thyroid. Ultrasonography showed a lesion with cystic and solid component. The size of cyst in neck was 23 × 48 cm.

CT studies of neck and thorax showed a lobulated cervico-mediastinal mass lesion. Lab data showed normal LDH, BHCG and Alfa Fetoprotein.

Intra-operatively, the lesion extended from neck to middle of mediastinum. The lesion was excised completely

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with median sternotomy and lateral neck incision. Histopathology examination revealed neoplastic lesion composed of cystic spaces lined with keratinized stratified squamous and respiratory epithelium with hair follicles, sebaceous glands, eccrine and mucinous glands, pancreatic tissue, mature fatty tissue, hyaline cartilage and smooth muscle bundles in the wall.

The other case was a 42 year-old female admitted because of a left anterior neck mass. On physical examination, a large fluctuant and painless cystic mass was present at the base of neck. The lesion was seen in the chest X-ray [Figure 1]. CT scan study of neck and thorax showed a lobulated cervico-mediastinal mass lesion. The size of mass in the mediastinum was $14/5 \times 6/6$ cm and in the neck was $4/5 \times 5$ cm [Figure 2].

Intra-operatively the lesion was found extending from neck to middle mediastinum. The lesion was excised completely with median sternotomy.

Histopathology examination revealed neoplastic lesion composed of cystic spaces lined with keratinized stratified squamous and respiratory epithelium with hair follicles, sebaceous glands, eccrine and mucinous glands [Figure 3]. Diagnosis of both cases was mature teratoma.

DISCUSSION

Teratoma in cervico-mediastinal region in adult patients is very rare. The most reports had been in newborns and infancy. Castellote *et al.* classified cervicothoracic lesions as traumatic lesions, inflammatory lesions, congenital lesions, malignant tumors and benign tumors. The most common cervicothoracic mass in children is lymphangioma and other congenital lesions are vascular anomalies, thymic cyst and hemangioma. Other lesions which can manifest as cervicothoracic masses are: Infective disease, fibromatosis, lipoma, lipoblastoma and nerve sheath tumors can occur as cervicothoracic tumors. Lymphoma, thyroid carcinoma, neuroblastoma, and chest wall tumors are malignant cervicothoracic tumors. Cervicothoracic lesions occurs after trauma (Pneumomediastinum, pharyngeal pseudodiverticulum, foreign-body granuloma of esophagus, and hematoma) and these lesions may mimic as traumatic cervicothoracic lesions.^[5]

Beji *et al.* reported hydatid cysts in adult patients as cervico-mediastinal masses.^[6] Martino *et al.* in retrospective study reviewed a series of teratomas of the neck and mediastinum. They reviewed the patients with cervico-mediastinal tumor over the 10 years. They recorded prenatal diagnosis, perinatal treatment, radiologic and clinical features, pathology, surgical treatment and results in cervical and mediastinal teratomas. In this period they treated 11 children (6 male and 5 female) having cervicomedial teratomas. 5



Figure 1: The lesion was showed in the chest x ray

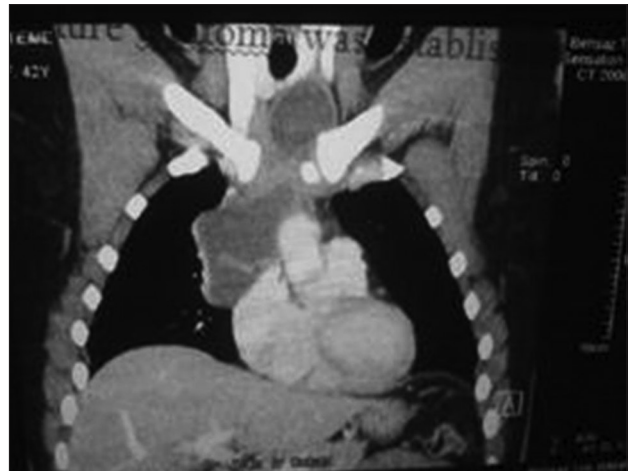


Figure 2: CT scan study of neck and thorax

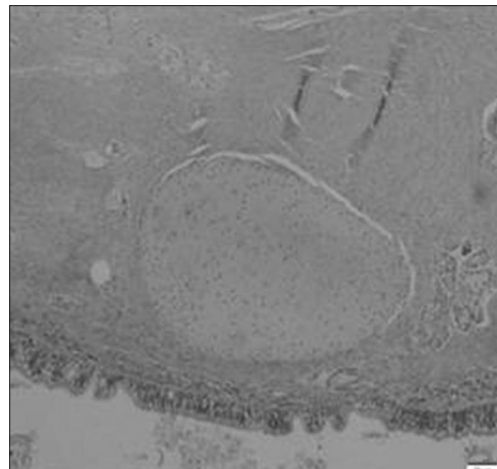


Figure 3: Histopathology examination of the specimen

babies had cervical teratomas (two cases extended into the anterior mediastinum). The diagnosis was confirmed by increased AFP and imaging. All tumors were removed surgically.^[7]

Chappuis reports 8 patients with congenital cervicomedial lesion that compress the tracheo-bronchial area. These patients presented with respiratory distress. The histopathology was teratomas.^[8]

Yamaguchi *et al.* reported excision of cervico-mediastinal tumor with thoracoscopy. The mediastinal portion was excised with thoracoscope and the cervical portion was excised from cervical incision.^[9]

The patients were presented with mass in cervico-mediastinal region, benign teratoma may be diagnosis. Surgical approach can be cervical, mediastinal or both, due to extension of tumor in neck and mediastinum. Review of other reports show that, teratoma in cervico-mediastinal region is very rare. We report two adult patients with cervico-mediastinal tumors diagnosed as teratoma.

CONCLUSION

We conclude that in adult patients who present with cervico-mediastinal mass, benign teratoma could be one of a differential diagnosis although it is a rare presentation.

We recommend that for those patients undergoing surgery for cervicomedial mass, if maximum part of mass is in mediastinum, the first incision should be sternotomy and excision of both segments of mass. If removal of the mass is difficult from sternotomy incision, the incision can be extended to the neck.

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