

Primary Yolk Sac Tumor in the Thoracic Wall: Case Report

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Abstract

Malignant extragonadal germ cell tumors primary to the thoracic wall are quite uncommon lesions, but pure yolk sac tumor is even more exceptional. This is believed to be the first reported case of yolk sac tumor of the chest wall. A 33-year-old female patient with a primary extragonadal giant yolk sac tumor presenting with thoracic wall mass, complaint of back pain.

(*Journal of International Dental and Medical Research 2009; 2: (2), pp. 58-60*)

Keywords: Yolk sac tumor, thoracic wall, spinal cord compression, surgery.

Received date: 25 April 2009

Accept date: 15 July 2009

Introduction

Yolk-sac tumor mimics the yolk sac of the embryo, and the presence of alpha fetoprotein in the tumor cells is highly characteristic(1). Extragonadal germ cell tumors are rare lesions and are mainly located in the retroperitoneal, mediastinal, pineal and presacral regions(2). The primary location of non-metastatic germ cell tumors of the chest is the anterior mediastinal compartment. Germ cell tumor arising from chest wall is one of the rarest conditions in human. The prognosis and management of patients with Germ cell tumors (GCTs) depends on the tumor histology and site of origin(3). Most of the tumors of the chest wall presented with a nonpainful mass. With continued growth and tumor involvement of surrounding tissue, pain invariably occurs.

There is no reported case about primary yolk sac tumor in chest wall in the review of the English literature. We would like to emphasize; yolk sac tumor could be found in chest wall, as our patient.

Case

A 33-year-old woman admitted to our hospital with palpable chest wall mass and

symptom of back pain. She had been aware of mass for 3 months. She had been misdiagnosed as skin infection and discharged home with medical treatment by local hospital. She was hospitalized for chest wall mass found in right and back. Complete blood counting values were in normal limits. Blood biochemistry values were also in normal limits, except ALP: 430 U/L, ALT: 118 U/L, AST: 96 U/L, and GGT (533 U/L). Tumor markers were; Beta hCG: 0.1 ng/ml, CA125: 18.62 ng/ml, CA19-9: 66.3 ng/ml, CA15-3: 25.27 ng/ml, CEA: 3.42 ng/ml. Thorax computed tomography (CT), and Abdominal ultrasonography (USG) were obtained. Thorax CT showed the mass; 105x64 mm dimensioned, paravertebral localicated in right-down hemithorax, invasoned adjacent ribs and muscles, destructioned T8 vertebral corpus. And another 67x62 mm dimensioned mass in liver (Fig. 1).



Fig. 1 Chest Computed Tomography of admitting.

Abdominal USG showed 69x63 mm dimensioned, right lobe superior segment

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(subsegment 5) localized, solide mass, other abdominal organs were normal. Open biopsy for thoracic wall mass was done under local anesthesia and reported tumoral tissue with necrosis. Than dynamic abdominal CT obtained. It showed liver mass had been bloodstained peripherally before, centrally later, and diagnosed giant hemangioma firstly, other abdominal organs, especially genital organs were normal. Thoracic magnetic resonans imagination (MRI) showed; spinalis cord was compressed by the mass but there was no invasion.

The mass and adjacent invasoned tissues were extracted with operation. Resection distances were 4 cm in superior, inferior, and lateral dimentions. Resection included vertebral invasoned body, and because of the medulla spinalis, resection distances was less than 0.3 cm in medial dimention. Surgical resection, and appropriate reconstruction of large chest wall defect were done.

Post-op chest tube daily draniage was more than 400 cc for 10 days period. Therefore it, upper diafragmatic chest tube was not be ended. Skin necrosis in the operation area was seen at the 12 th day. Debridment operations were done in operation room for twice. Acinobacter baumannii bacterial infection was defined into operation area. Antibiotics were used for infection for 20 days. Than chest tube was ended.

Muscle and skin replacement operations were done for the large skin and muscular defect. The metilmetacrilate reconstruction prosthesis was removed in the same operation.

Sense and motor deficit were occured at the 29th day after operation. Thoracolomber MRI showed; right paravertebral 120x75 mm dimensioned mass, compression of spinal cord, methastasis in T8 vertebral corpus, and compression fracture in T9 vertebral body. Alpha fetoproein was more than 1210 ng/ml, AST: 209 U/L, and ALT: 446 U/L at the post-op 35th day.

Pathological diagnosing of the thoracic wall mass was Yolk sac tumor. It was diagnosed by alpha fetoprotein immunohistochemical painting (Fig. 2).

Adjuvant chemotherapy was planned for patient. The first cure of cisplatin, etoposit, and bleomycin was done at the 41st day after operation. Sense and motor deficits were still continued. Alpha fetoprotein level was still more than 1210 ng/ml after first chemotherapy cure. Patient was discharged with planning second cure of chemotherapy at the 48th day.

After the second cure of chemotherapy thorax and abdominal CT were obtained. These scannings showed multipl metastasis in lungs and liver, and abdominal effusion. And no decreasing at

the level of alpha fetoprotein.

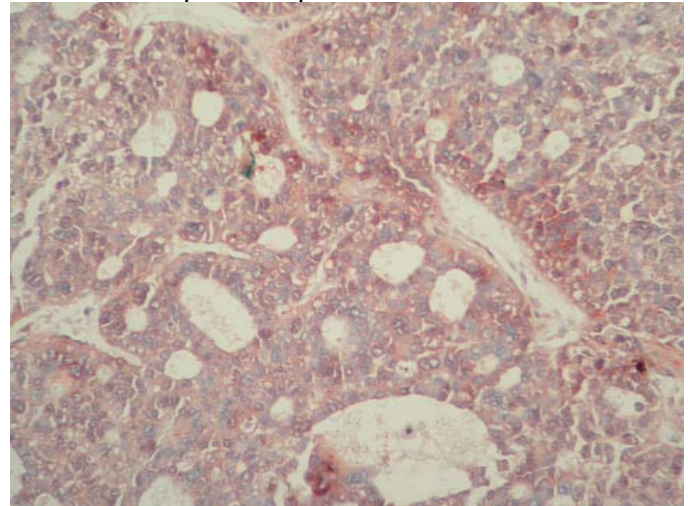


Fig. 2 Tumor cells with alpha fetoprotein painting.

Discussion

Primary chest wall tumors are rare; of these, soft tissue tumors account for roughly 50%. Surgical resection is the most effective treatment for the vast majority of chest wall tumors. Keys to successful management include accurate diagnosis, wide surgical resection, and appropriate reconstruction of large chest wall defect(4). A diagnosis of a malignant extragonadal germ cell tumour can be established if the criteria laid by Einhorn(5) are fulfilled. They include absence of a detectable (including stigmata of burnt-out lesion) or subsequent appearance of a gonadal tumour and absence of nodal metastases in the para-aortic and iliac regions. With these stringent criteria, the thoracic wall emerges as an extremely uncommon site for such tumors. In an early study by Holt et al(6), 20 teratomatous tumours were found to involve the thoracic region. Seven among these were excluded because of probable mediastinal location. Thirteen had primary pulmonary location and five of these were malignant. There has been no reported thoracic wall primary yolk sac tumor case. Recognising such thoracic wall tumors in patients is important because these tumors are sensitive to chemotherapy with increased patient survival.

We do not have the alpha fetoprotein level at the time of admitting. Because we did not think the thoracic wall mass could be a yolk sac tumor. Preoperatif pathological diagnosing was necrosis with tumor tissue. The operation and mass excision was performed in accordig to this diagnosis. In spite of two chemotherapy cure, multipl metastasis were seen, and alpha fetoprotein level was stil more than 1200. Can it shows that primary thoracic wall yolk sac tumor is resistant for chemotherapy?

Conclusion

As a result we would like to emphasize that extragonadal germ cell tumors can be found in the thoracic wall rarely. But it should be thought while pre operation period.

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