# Mediastinal Cavernous Hemangioma in A Newborn

## Yenidoğanda Mediastinal Kavernöz Hemanjiom

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**Abstract**

Benign vascular tumors, has rarely localized in mediastinum. Although mediastinal hemangioma was the most common vascular tumor of mediastinum, it constitutes less than 0.5% of all mediastinal tumors. Mediastinal hemangiomas can affect all age groups. However, half of the patients were younger than 20. Mediastinal cavernous hemangioma case of the newborn has been reported very rare in the literature. A girl who was weighing 3500 g at term with a mass in the mediastinum which revealed in prenatal ultrasonography (USG) was hospitalized in our clinic postnatally. The mediastinal mass of the patient was resected through left posterolateral thoracotomy at the end of complete week of three. Pathology was reported as cavernous hemangioma and the patient presented in the light of literature.

**Keywords:** Mediastinum; hemangioma; newborn

**Aplication:** 18.06.2011 **Accepted:** 29.06.2011

**Özet**

Benign vasküler tümörler nadiren mediastene yerleşir. Mediastinal hemanjiom mediastenin en sık görülen vasküler tümörü olmasına rağmen tüm mediastinal tümörlerin %0.5'inden daha azını oluşturur. Mediastinal hemanjiomlar herhangi bir yaş grubunda görülebilir. Bununla birlikte olguların yarısı 20 yaşından daha küçüktür. Literatürde yenidoğanda mediastinal kavernöz hemanjiom çok nadir bildirilmiştir. Prenatal ultrasonografide mediastinal kitle saptanan miadında doğmuş 3500 gram ağırlığındaki bir kız çocuğu postoperatif kliniğimize yatırıldı. Üçüncü haftada sol posterolateral torakotomi ile mediastinal kitle rezeke edildi. Patoloji sonucu kavernöz hemanjiom olarak bildirilen olgu literatür ışığında sunuldu.

**Anahtar Kelimeler:** Mediasten; hemanjiom; yenidoğan

**Başvuru Tarihi:** 18.06.2011 **Kabul Tarihi:** 29.06.2011

## Introduction

Benign vascular tumors are rarely stated in the mediastinum. Among these tumors hemangioma is the most common one and it brings about less than 0.5 % of all mediastinal tumors.[1] Anterior mediastinal tumors are more common than posteriorly located ones. They named as; capillary, cavernous or venous according to their vascular size.[1] Capillary hemangiomas are more common than cavernous or venous hemangiomas. Venous hemangiomas are quite rare.[2,3]

Mediastinal cavernous hemangioma of newborn was very rarely reported in the literature.[4] We present a mediastinal cavernous hemangioma of a female newborn patient in the light of literature whose mediastinal mass was completely resected.

## Case report

A girl who was weighing 3500 gram at term with a mass in the mediastinum which revealed in prenatal ultraso-

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nography (USG) was hospitalized in our clinic postnatally. In clinical evaluation, respiration of the newborn was normal. There was no body deformity in observation. Breath sounds were diminished on left upper pulmonary zone in auscultation. Hematological and biochemical evaluation of the newborn was in normal limits. Chest radiography was in concordance with mediastinal mass. Computerized tomography (CT) detected a visceral lesion on left mediastinum (Figure 1). Magnetic resonance imaging (MRI) identified same lesion as a left mediastinal visceral mass that was heterogeneous in nature (Figure 2). Trans-thoracic fine needle aspiration (TTFNA) applied to the newborn at the end of second week. Cytological analysis reported benign cystic hemorrhagic tissue elements. Operation was done at the end of 3rd week. Left posterolateral thoracotomy applied in 4th intercostal space. The mass was fully located in the mediastinum and it was composed of solid and cystic components and it was settled on aortic curve. There were fragile and dilated veins around the lesion. The lesion was resected after mobilized via sharp and blunt incisions. One chest drain was inserted. Macroscopic investigation revealed that the mass was 5 x 6 x 4 cm in size, brunette-brown in color, 10 gram in weight. Pathological examination reported as cavernous hemangioma. The patient was discharged on 6th day of operation without any observed complication.

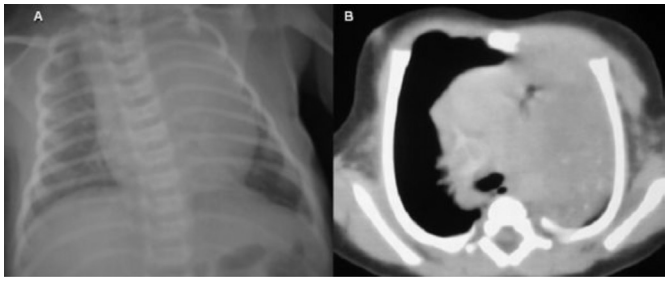


**Figure 1:** (a) Postero-anterior chest radiography reveals relatively well demarcated opaque appearance which cannot be clear separation from surrounding and compresses mediastinum located in the left upper pulmonary zone. (b) Well demarcated hypodense lesion that fills left upper lobe of the lung is present in CT imaging of thoracic cage. Punctuate calcification on posterior side of the lesion.

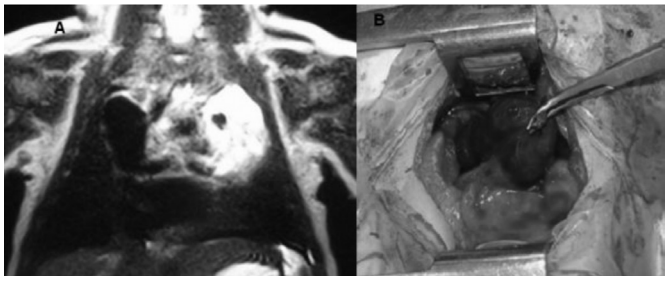


**Figure 2:** (a) MRI imaging of hyper intense massive lesion which located in left and pushes the mediastinum to right. (b) At operation appearance of the lesion.

## Discussion

Vascular tumors of the mediastinum are rare. These tumors are more commonly located in anterior mediastinum.[5] Although mediastinal hemangioma can be seen in all age groups, 50 % of the patients is under 20 years of age.[1,2,6,7] Among hemangioma types; cavernous hemangioma is more commonly seen in children and adolescents.[5] Grosfeld and colleaques[8] reported only one hemangioma in 196 child with mediastinal mass. Mediastinal cavernous hemangioma of the newborn have been reported very rarely.[4]

Like other benign mediastinal tumors, up to 50% of the patients is asymptomatic.[9] Tumor is located on important structures of the mediastinum nearly 10% of the cases and may be life threatening in 1% of the cases.[9] Symptoms were also related with age and young patients are prone to more severe complications. Our case was diagnosed incidentally on prenatal follow-up of the fetus and none of the signs and symptoms that mentioned above were not detected.

Cavernous hemangiomas may be located in either anterior or posterior mediastinum. Moren and Suster 10 reported that hemangioma was located in anterior mediastinum in their 14 of 18 patient series. In our case the lesion was located in visceral mediastinum.

Mediastinal hemangiomas can be displayed as well demarcated, round shaped or lobular images in direct radio-

logical graphics or CT. But these findings are not enough for diagnosis.[1,9] Phlebolith that was characteristic radiologic finding of vascular mass was only seen in 10% of the patients.[3,9] Also punctuate calcification of the tumor may be observed in imagination. These calcifications are non-specific and they can be observed in cartilaginous and teratoid lesions.[1-3] Punctuated calcification was detected in CT of our case. The lesion was usually heterogeneously displayed in contrast enhanced CT. The level of stain is usually similar with adjacent vascular structures. Angiography seldom gives supportive findings of the vascular tumor. Unlike CT and angiography; MRI is very useful in the diagnosis of mediastinal hemangiomas. In addition, MRI is also useful in showing the relationship between the spinal cord and extradural extension of posterior hemangiomas.[1]

TTFNA has low diagnostic value in these type tumors. Hemangiomas histologically compose of interrelated major vascular ranges delimited by flattened cuboidal epithelium. It contains; different proportions of fat, myxoid, fibrous tissue, such as focal organizing thrombi and foci of stromal elements. Thrombus may be calcified as phlebolith.[1,2] The tumor is usually limited to well. However, a true capsule is very rarely seen.

Verification of the diagnosis of mediastinal hemangioma in children is important in choosing therapy because of possible spontaneous resolution in asymptomatic patients. Beside this development of the tumor should be closely monitorized due to following reasons. Primarily differential diagnosis of mediastinal mass that have possible malign behavior tumors such as hemangiopericytoma or hemangioendothelioma should be done.[2,9] Second important point is that cavernous type of mediastinal hemangioma is unlike to capillary type do not show spontaneous regression. On the other side differential histological diagnosis of mediastinal masses is very difficult with noninvasive diagnostic methods.

Possible management strategies of hemangiomas are; waiting for spontaneous resolution, use of systemic steroids, ligation of feeding vessel, laser, injection of sclerosing agents, cryotherapy or surgical excision. If the lesion is in the mediastinum, it is not proper to wait for spontaneous resolution due to possible compression to vital organs. Together with these mediastinal hemangioma can be easily confuse with malignities due to; solid growth pattern, ability to achieve large size and commonly observed infiltrative enlargement. For these reasons, surgical excision is a reliable method for diagnosis and treatment.[1]

In conclusion, mediastinal cavernous hemangioma is rare in newborn. Unlike to capillary hemangioma, cavernous hemangiomas do not regress spontaneously. TTFNA has low diagnostic value in these type tumors and surgical resection is an acceptable therapeutic method both for the diagnosis and the treatment.

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