Case report

Venous hemangioma of the azygos arch

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Abstract

Giant venous hemangiomas of the azygos arch are exceedingly rare and idiopathic. To the best of our knowledge, there have been only two reports of azygos hemangioma. We report a case of hemangioma of azygos arch in a 46-year-old man after a complete resection and discuss the strategy that was used for the diagnosis and therapy.

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1. Introduction

Enlargement of the azygos arch in patients can be due to portal vein hypertension, an increase in central venous pressure, malformation, tumor or local thrombosis. However, hemangiomas of the azygos arch are extremely rare and very few cases are described in literature. This case was reported in order to describe and discuss the strategy that was used for the diagnosis and therapy.

2. Case report

A 46-year-old man was admitted to our hospital for an incidental finding of a possible posterior mediastinal mass. His physical examination was normal, and the values of hematologic examinations were within normal range. The chest radiograph was normal except for slightly wide superior mediastinum with a possible mass (Fig. 1A). A plain chest computed tomography showed a right posterior mediastinal mass with a smooth margin adjacent to the trachea, vertebra and superior vena cava. Enhanced computed tomography confirmed a slowly enhancing mass in the pathway of the azygos arch. It showed mild contrast enhancement but linear marked enhancement in the posterior part of the mass in the spine position, and the degree was lower than that of the surrounding vascular structures (Fig. 1B). These findings indicated that it was a giant vascular mass originating from the azygos arch. Six days later, the patient underwent surgery.

After the chest was opened through a small right lateral thoracotomy, there was no adhesion or fibrosis. A giant mass arising from the azygos arch was observed (Fig. 2A). Proximal and distal control of the azygos arch was obtained with delicate manipulation, and the venous mass was resected. The integrated gross specimen measured about 5 cm (Fig. 2B). There was no intraluminal thrombus inside, however a mixture of thin wall and fine predominant septa was observed by macroscopic findings (Fig. 2C). Pathological examination showed that the wall was composed of smooth muscle and connective tissues. The fine septa were lined with attenuated endothelium. The macroscopic and microscopic findings were compatible with the diagnosis of hemangioma. The patient had an uneventful postoperative recovery and was discharged on the fifth postoperative day. With careful follow-up, the patient was well without any reported discomfort.

3. Discussion

Although some cases of azygos aneurysm have been reported, hemangiomas of the azygos arch are extremely rare and very few cases are described in literature. To the best of our knowledge, there have been only two reports of azygos hemangioma. Nataf reported a case of azygos epithelioid hemangioma, which was an endovenous tumor with spinal and lymph node invasion. Epithelioid hemangioma is slowly progressive and its potential malignancy justifies surgical excision whenever possible [1]. Sato and co-workers [2] also reported an azygos hemangioma that was diagnosed by endobronchial ultrasonography and surgical resection. In cases of hemangioma, the fine predominant septa was observed, as opposed to the similar venous aneurysm without any fine septa on the wall.

Patients with hemangioma are often asymptomatic and detection is often an incidental finding obtained for another
purpose. Enhanced computed tomography or magnetic resonance imaging is often performed to evaluate vascular abnormalities so that other mediastinal mass can be identified. Enhanced computed tomography demonstrated different levels of contrast in the hemangioma with the highest density in the posterior part. The reasons are that blood flow within the hemangioma is very low and the contrast has a higher specific gravity than blood. As the blood flow is very low, magnetic resonance imaging shows the absence of a low void and provides an image similar to a solid mass. Thus, computed tomography is better than magnetic resonance imaging in the diagnosis of hemangioma. Lena et al. [3] reported that transesophageal echography was useful for the diagnosis but a Doppler flow was not observed. Sato and co-workers [2] also suggested that endobronchial ultrasonography (used with a new prototype bronchofiber-scope with an electrical curved linear array method) clearly showed the mass with blood flow by using the power Doppler mode. An appropriate therapeutic strategy was not clear, however the surgical treatment was realized due to the risk of enlargement. Sukumar and co-workers [4] reported the first case of successful video-assisted thoracoscopic resection. The mass was removed through a small thoracotomy in our case, but we supported resection of the azygos hemangioma with video-assisted thoracoscopic technique if necessary.

Although the hemangioma is very rare, we believe that it should be kept in mind for the differential diagnosis of azygos mass. As an azygos hemangioma may grow, and even with potential malignancy, follow up of this lesion is important for surgical therapy.

References