Thymic Carcinoma With Tumor Thrombus into the Superior Vena Cava

Tumor thrombus into the vena cava have been reported in cases with renal cell carcinoma, thyroid tumor and in those with thymoma. These tumors are frequently invasive and continuous from the main tumor that shows direct vessel wall invasion. Here, we report a case of thymic carcinoma with superior vena cava syndrome, which was caused by a tumor thrombus in the superior vena cava without vessel wall invasion. The main mediastinal tumor did not show innominate vein invasion, and the superior vena cava syndrome was a result of separate tumor thrombus that was free of vessel wall invasion. The tumor thrombus could be removed through a simple venotomy. To prevent stenosis in the superior vena cava and the left innominate vein, we used a pericardial patch to close the venotomy site. (JJTCVS 2001; 49: 327–329)

Key words: thymic carcinoma, tumor thrombus, superior vena cava syndrome, pericardial patch

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A mass in the superior vena cava showed an extension into the right atrium (Fig. 1, right). A superior vena cavogram, obtained via percutaneous axillary vein puncture, showed complete obstruction in the bilateral innominate vein and in the superior vena cava (Fig. 2, left). The venous pressures of both the right and left innominate vein were 18 mmHg. On lung perfusion scintigraphy, no sign of pulmonary embolism was noticed. Judging from these findings, the diagnosis was a mediastinal tumor and SVC syndrome that was caused by tumor thrombus in the SVC.

An operation was performed on June 3, 1998. The mediastinum was explored through a median sternotomy. A hard but well-demarcated and movable tumor, measuring 2 × 3 cm in size, was found in the superior anterior mediastinum (Fig. 1, left). Transesophageal echography demonstrated that...
Fig. 1.  Computerized tomography (CT) of the chest (left) and transesophageal echography (TEE) (right).

Fig. 2.  Superior vena cavogram before (left) and after (right) the operation.

Fig. 3.  Macroscopic appearance (left) and histology (right, H-E, original magnification \times 400) of the intravascular tumor. Proliferation of the tumor cells that are rich in mitosis is seen without apparent keratinization or gland formation. Infiltration of many lymphocytes and neutrophils is also noticed.