Nadir Bir Olgu: Ektazik ve Yüksek Yerleşimli Brakiosefalik Arterin Neden Olduğu Sol Brakiosefalik Ven Kompresyonu ve Eşlik Eden Venöz Kollateraller

Unusual Case of Left Brachiocephalic Vein Compression by Ectatic and High Situated Brachiocephalic Artery with Venous Collaterals

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ÖZET


Anahtar Kelimeler: Sol brakiosefalik ven, kompresyon, venöz kollateral, MDCT

ABSTRACT

Left brachiocephalic vein compression is unusual. This is a rare first case that left brachiocephalic vein compression due to ectatic and high situated brachiocephalic artery. Herein, we aimed to describe the case who had a compression of the LBV and systemic venous collaterals on MDCT without mediastinal mass, and history of venous catheterisation. There were numerous venous collaterals in the mediastinum which connecting LBV to inferior vena cava. LBV compression by ectatic and high situated brachiocephalic artery with venous collaterals has not been reported.

Keywords: Left brachiocephalic vein, compression, venous collateral, MDCT
INTRODUCTION

LBV (innominate vein) is formed by the junction of the subclavian and jugular veins in the superior mediastinum. It drains head, neck, and upper extremities (1). LBV runs anterior to left carotid artery and brachiocephalic artery on mediastinum. Congenital anomalies such as retroaortic LBV and abnormally course between the brachiocephalic artery and left carotid artery were reported as a case in the literature (2). Different types of retroaortic LBV are described (3). Some of them were symptomatic and associated with other congenital malformations. Herein, we present an asymptomatic case who had a compression of the LBV and venous collaterals on MDCT without medistinal mass, and history of venous catheterisation. Also, there were numerous venous collaterals in the mediastinum which connecting LBV to inferior vena cava (IVC). This collateral pathway was important to maintain venous drainage of upper extremity and thorax. LBV compression by ectatic and high situated brachiocephalic artery with venous collaterals has not been reported.

CASE

A 85-years-old female patient presented with dyspnea. Physical examination was unremarkable. To exclude pulmonary tromboembolism, pulmonary computed tomography (CT) angiography was performed by 64-detector row CT. There was a partial trombus in the distal part of right pulmonary artery (Fig. 1).

Also, numerous venous collaterals on the mediastinum which one of them connecting to the IVC. There was no mediastinal mass on CT which abutting to the LBV. Superior vena cava was patent. LBV was compressed by ectatic and high situated left brachiocephalic artery (Fig. 2, 3).

We questioned the patient retrospectively, there was no history of venous cateterization, operation, trauma, coagulation disorders or hemodialysis. So, we concluded that the compression of the LBV was caused by an ectatic and high situated left brachycephalic artery based on MDCT findings.

DISCUSSION

Transient LBV compression by aortic arch and branches in supine position on sonography has been described by authors (4). They concluded that physiological compression may simulate left internal juguler vein thrombosis. Also, various position like sitting or lateral decubitis position can resolve the compression.

LBV obstruction can caused by mediastinal tumour invasion, extrinsic compression, or venous catheterization (1). Mediastinal tumour invasion of the LBV by lymphoma, thymoma, and seminoma or metastases from breast tumour can be clearly seen with MDCT. Percutan central venous catheterisation is commonly performed in a blinded manner for short-trem dialysis, or parenteral nutrition. Repeated cannulation and long duration of catheter can induce thrombosis and stenosis. When chronic venus obstruction present, the collateral pathways develop to maintain venous dranaige (5). If collateral venous routes develop, unilateral venous distansion is commonly seen.
Atherosclerosis and hypertension can also cause dilatation of aortic arch. LBV compression between aortic arch and sternum might be associated with LBV occlusion and stenosis (4). In the literature, few reports were presented about this situation in which reversed flow in left juguler vein and permanent dialysis access were present. In the case we describe, LBV compression and mediastinal unexpected venous pathways were detected. Also, the patient had no history of venous cannulation and hemodyalsis. Physical examination showed no findings of venous stasis and edema in upper extremity or neck.

In conclusion, LBV compression by an ectatic and high situated brachiocephalic artery with mediastinal venous collaterals has not been reported in the literature. Several venous collaterals were unusual without mediastinal mass or previous venous cannulation. Also, no findings of venous stasis and edema in upper extremity on physical examination. All of them makes our case interesting. MDCT is usefull tool to evaluate the etiology of LBV compression without known venous obstruction.

REFERENCES