Superior vena cava occlusion related collateral pathway

Maria Kipourou[1],
Ioannis Tsanaktsidis[2],
Dimitrios Sidiropoulos[2],
Konstantinos Kotroumanidis[2],
Konstantinos Katsoulis[2],

[1]Pulmonary Department,
[2]Radiology Department,
424 General Military Hospital, Thessaloniki, Greece

A 70-year-old patient, diagnosed a year ago with adenocarcinoma of the right upper lobe, presented unilateral, left sided plethora of the head and oedema of the neck, during hospitalization due to recurrent haemoptysis. The patient had not received any treatment since diagnosis. Symptoms were suggestive of superior vena cava (SVC) obstruction, so a Multi Detector Computed Tomography (MDCT) of the chest was performed. As far as thoracic venous system is concerned, imaging revealed complete occlusion of the SVC, right brachiocephalic, right internal jugular and right azygos veins (Fig. 1) as well as thrombosis of the right subclavian, right axillary and left brachiocephalic veins (Fig. 2). Interestingly, an excessive collateral venous pathway formed by the right sided internal mammary (Fig. 1), intercostal (Fig. 3), chest wall (Fig. 1), epigastric, epiphrenic and perinephric (Fig. 3) space veins was revealed (type Stanford IV[1]). Gradual obstruction of SVC along with the development of a sufficient collateral pathway determines the paradox, mild, unilateral and left sided clinical findings of the patient, despite complete obstruction of the right venous system. Moreover, imaging of collateral pathways by MDCT and 3D imaging (Fig. 4), is advantageous in the evaluation of SVC obstruction, especially in cases of non tyipical clinical appearance[2].

No funding or conflict of interest is declared.
All authors are in agreement with the manuscript.

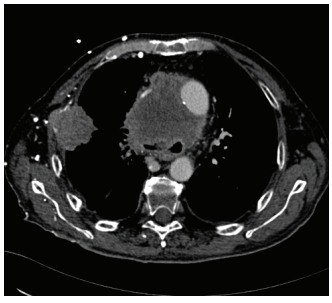

FIGURE 1

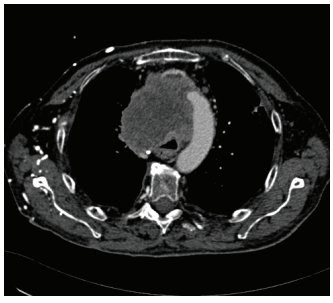

FIGURE 2

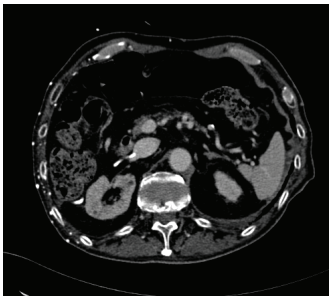

FIGURE 3

FIGURE 4

Correspondence:
Maria Kipourou
424 General Military Hospital Thessaloniki,
Ring Road 1, Efkarpia, Thessaloniki, Greece;
Tel.: 6947825795,
e-mail: mariakipo@hotmail.com

REFERENCES

1. Stanford, Williarn, et al. «Superior vena cava obstruction: a venographic classification.» American Journal of Roentgenology148.2 (1987): 259-262.
2. Eren, Suat, Adem Karaman, and Adnan Okur. «The superior vena cava syndrome caused by malignant disease: imaging with multi-detector row CT.» European journal of radiology 59.1 (2006): 93-103.