

Self-assessment quiz

Question 1

Based on the photos, what is the diagnosis?



Question 2

Which of the following is an incorrect statement?

- a) The superior vena cava (SVC) is formed by the union of right and left brachiocephalic veins
- b) The SVC originates in the superior mediastinum
- c) The length of the SVC is about 5–7 cm
- d) The SVC extends from the costochondral junction of the first to the third rib on the right side
- e) The hemiazygos vein drains to the SVC

Question 3

Which of the following is an incorrect statement?

- a) Computed tomography of the thorax is the usual investigation of choice in SVC obstruction
- b) Contrast venography is the most conclusive diagnostic tool in SVC obstruction
- c) Incomplete SVC obstruction is usually due to thrombosis of the SVC
- d) SVC obstruction can lead to facial puffiness
- e) The most common cause for SVC obstruction is bronchogenic carcinoma

Question 4

Which of the following is the most common cause for SVC obstruction in a young male?

- a) Bronchogenic carcinoma
- b) Malignant germ cell tumour in the mediastinum
- c) Thymoma
- d) Hodgkin's lymphoma
- e) Non-Hodgkin's lymphoma

Question 5

Which of the following is an incorrect statement regarding SVC obstruction in bronchogenic carcinoma?

- a) SVC obstruction is an absolute contraindication for bronchoscopy
- b) SVC obstruction is more common in right-sided tumours
- c) SVC obstruction may lead to hoarseness of voice
- d) SVC obstruction may be due to enlarged mediastinal lymph nodes
- e) Severe SVC obstruction may lead to cerebral oedema

Answers

Question 1

Infra-azygos obstruction of the SVC. The azygos vein drains to the SVC just before the SVC drains to the right atrium. Figures 1 and 2 show dilated veins over the chest, neck and upper abdomen. Engorgement of the upper abdominal veins indicates obstruction of SVC is below the level of the azygos vein draining into the SVC. The azygos vein drains the upper abdomen. When the SVC obstruction is above the level of the azygos vein draining to SVC, engorgement of upper abdominal veins is not seen.

Question 2

e) The hemiazygos vein drains to the azygos vein.

Question 3

c) Thrombosis leads to complete obstruction, whereas external compression in the initial stages leads to incomplete obstruction of the SVC. Hence if SVC obstruction due to external compression is diagnosed and treated early, the obstruction may be relieved. External compression for prolonged period may lead to thrombosis and permanent obstruction of the SVC even if the compression is relieved later.

Question 4

e) Non-Hodgkin's lymphoma is the most common intrathoracic tumour in young males. In elderly smokers bronchogenic carcinoma is the most common cause for SVC obstruction (more than 60% of cases).

Question 5

a) SVC obstruction increases the complications associated with bronchoscopy. However, SVC obstruction is not an absolute contraindication for bronchoscopy. Due to laryngeal oedema SVC obstruction may lead to hoarseness of voice. Since the SVC is on the right side, SVC obstruction is more common in right-sided tumours. Due to decreased venous return severe SVC obstruction may lead to cerebral oedema.

Further reading

1. Armstrong BA, Perez CA, Simpson JR, *et al.* Role of irradiation in the management of superior vena cava syndrome. *Int J Radiat Oncol Biol Phys* 1987; 13: 531-539.
2. Escalante CP. Causes and management of superior vena cava syndrome. *Oncology (Williston Park)* 1993; 7: 61-68.
3. Rice TW, Rodriguez RM, Light RW. The superior vena cava syndrome: clinical characteristics and evolving etiology. *Medicine (Baltimore)* 2006; 85: 37-34.
4. Bigsby R, Greengrass R, Unruh H. Diagnostic algorithm for acute superior vena caval obstruction (SVCO). *J Cardiovasc Surg (Torino)* 1993; 34: 347-350.